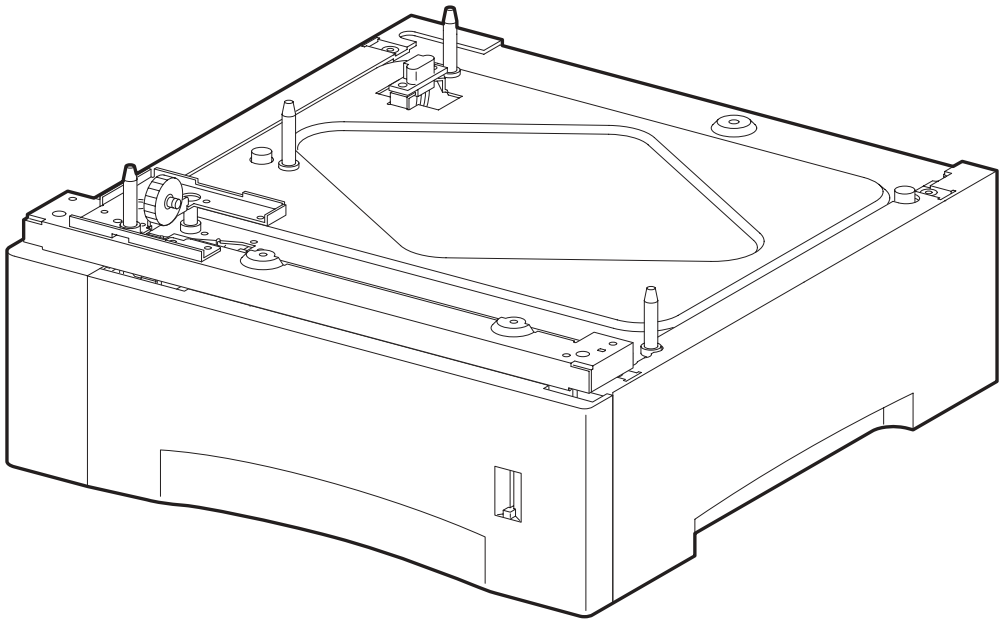
HAKUBA
26PPM Laser Printer Optional Equipment

Option Feeder Assy Technical Manual



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Version 1.0

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About This Manual

This manual contains technical and service information for the Option Feeder Assy for the HAKUBA 26ppm Laser Printer. The information is based on and validated using the basic model printer and Option Feeder Assy. Expect some minor discrepancies in physical appearance, hardware count, and electrical readings due to engineering modifications and manufacturing changes during the life of the product.

This manual serves as both a technical reference manual and as a guideline for OEM clients who wish to prepare their own service manual. Other uses are prohibited.

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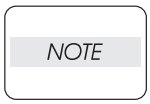
Symbols Used in This Manual



A Note indicates an operating or maintenance procedure, practice, or condition that is necessary to accomplish a task efficiently.

A Caution indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

A Warning indicates an operating or maintenance procedure, practice, or condition that, it not strictly observed, could result in injury or loss of life.

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Section 2: The Fault Isolation Procedure (FIP) Flowchart Contents

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Section 2: The FIP Flowchart

General Notes on Using FIPs

1. FIPs assume there is no malfunction in the printer controller. Therefore, we suggest that you identify the soundness of printer controller before entering the FIPs (refer to Section 2. FIP Flowchart).

   If you are unable to fix a problem using the FIPs, we recommend that you replace the printer controller.

2. FIPs frequently use new or “known good” components as troubleshooting tools. We recommend you carry a spare CRU, PWBA HKB26 MCU, PWB ESS, and PWBA HKB PS.

3. Unless indicated otherwise, the instruction “SWITCH ON main power” means that you switch ON printer power and let the printer proceed through power-on diagnostics and warm-up until it is on-line and ready to print.

4. Unless indicated otherwise, you should inspect and confirm the status of these components listed under the title of "SUSPECT COMPONENTS" at the first part of each FIP.

   The inspection items are:

   Installed properly?

   Not damaged or deformed?

   Not contaminated with foreign material?

   If any of the troubles above exist, you should correct, clean, or replace with a new component.

5. If you cannot isolate the problem using the FIPs, replace each of the components listed under the title of "SUSPECT COMPONENTS" at the head of each FIP, one at a time, until the problem disappears.

6. Conventions used to represent connectors:

   P/J XX means Plug and its corresponding Jack are connected.

   PXX means Plug is disconnected. (Unless this plug is soldered to PWB).

   JXX means Jack is disconnected. (Unless this jack is soldered to PWB).

7. When you are instructed to take a voltage reading between “P/J A-B and P/J X-Y”, place the red probe (+) of your meter on pin B of P/J A, and place the black probe (-) of your meter on pin Y of P/J X.

8. When you are instructed to take a voltage readings between “P/J X and P/J Y” (without specified pin numbers), check all voltage carrying pins. Refer to the Wiring Diagrams for signals and pin numbers.

9. Plug numbers are indicated on the circuit board. The pin numbers are not indicated fully on the board but only those located at both ends. In case there are 8 pins in a plug, you can find a figure of 1 (or A) at one end and 8 or (H) at the other end. The other number pins, such as 6, is found counting from one end.

10. When you are instructed to take voltage reading, the black probe (-) is generally connected to a pin that is either RTN (Return), SG (Signal Ground) or FG (Frame Ground) in place of any SG pin or test point.

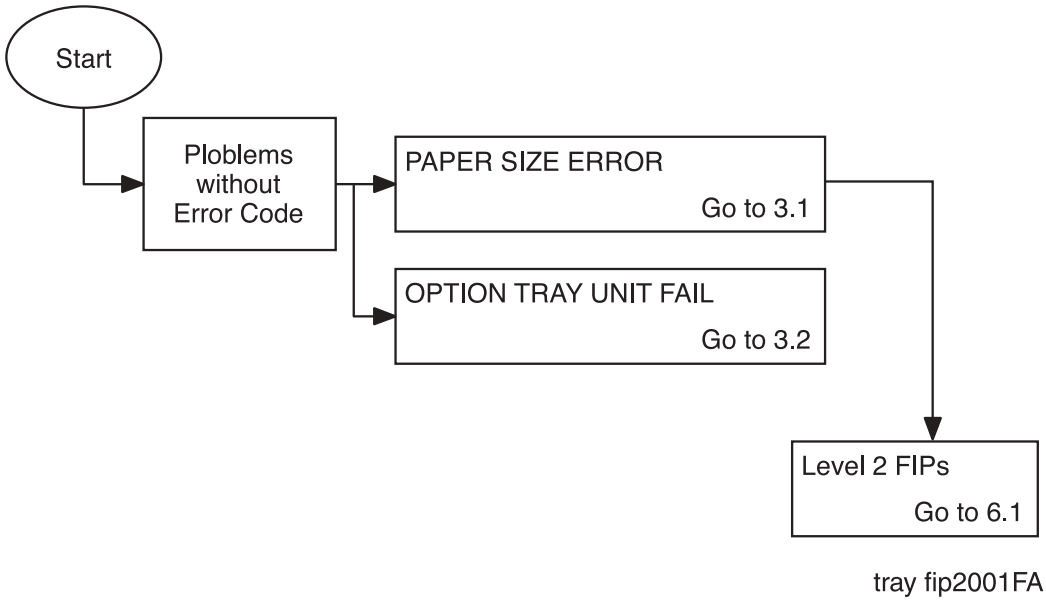
11. Unless an FIP instructs you otherwise, make sure the printer is switched ON, the CRU and the Paper Cassette are installed, and the Cover Rear is closed (Interlock Switch is actuated) before measuring voltages.

12. **All voltage values given in the FIPs are approximate values. Actual measured voltages may vary more than 25% from the values stated in the FIPs. The main purpose of most voltage readings taken in the FIPs is to determine whether or not a component is receiving the correct HIGH voltage value from the power supply, and if gating (a voltage drop) is occurring during component actuation. Gating signals may be nothing more than a pulse, resulting in a momentary drop in voltage that may be difficult or impossible read on the average multimeter.**

13. FIPs may instruct you to remove or replace a component. Refer to Section 10 Removal and Replacement Procedures for information on how to remove and reinstall a component.
14. When a FIP instructs you to replace a component, and that component is part of a larger assembly, you should replace the entire assembly.

Section 2: The FIP Flowchart

FIP Flowchart



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Section 3: Level 1 FIPs: Error Codes — Contents

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3.2 OPTION TRAY UNIT FAIL . . . . . TRAY 3-5

3. Level 1 FIPs: Error Codes

The FIP Flowchart should have directed you to this section.

Before entering the Error Code FIPs, make sure:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the HAKUBA User Manual?
14. Are consumables, such as the CRU, replaced at recommended intervals?

HAKUBA Error Codes

Code -- Message	Cause	Results --- How to Clear the Code (If you cannot clear the code, go to the appropriate error code FIP, or to the option service manual)
-- PAPER SIZE ERROR	There is a problem with the Option Feeder Assy or PWBA HKB26 MCU. 1. The size of the paper loaded in the paper tray is different than the paper size stored in NVRAM.	Motor Assy Main, Laser Scanner, and Fuser Assy controls stop at end of print cycle. --- Replace paper.
-- OPTION TRAY UNIT FAIL	There is a problem with the PWBA HKB26 MCU. 1. The Option Tray Assy is removed after the printer initial configuration is established.	Motor Assy Main, Laser Scanner, and Fuser Assy controls stop at end of print cycle. --- Re-install the Option Feeder Assy.

3.1 PAPER SIZE ERROR

The size of the paper loaded in the paper tray is different than the paper size stored in NVRAM.

Step	Actions and Questions	Yes	No
1	Inspect the following components. • Option *Feeder Assy* (PL11.1.1) • *Roll Regi Metal* (PL5.1.5) • *Roll Regi Rubber* (PL5.1.7) • *Sensor Photo:Regi* (PL5.1.12) • *Clutch Assy Feed* (PL3.1.37) • *Clutch Assy Turn* (PL3.1.2) • *Cassette Assy* (PL2.1.1) • Switch Size on the *PWBA Size1* (PL11.1.7) • *PWBA HKB26 MCU* (PL10.1.13) • *Harness Assy Feeder* (PL9.1.13) • *PWBA HKB PS* (PL10.1.17) **Are they compatible with your printer version, correctly**	Go to step 2	Replace the problem components
2	***ACTUATOR CST* (PL2.1.19) ANALYSIS** Remove the *Cassette Assy* (PL2.1.1). Inspect the combination of the *Actuator CST*. **Does the combination of the *Actuator CST* show the correct combination for the paper size present in the cassette?**	Go to step 3.	Replace the *Cassette Assy*.
3	**SWITCH SIZE *on the PWBA SIZE 1* (PL11.1.7) ANALYSIS** Inspect the Switch Size as you insert the *Cassette Assy* into the *Feeder*. **Does the Switch Size reflect a switch combination that corresponds to the size of the paper loaded in the Cassette Assy?**	Go to step 4.	Go to Level 2 FIP 6.1 Switch Size Failure.
4	***ACTUATOR REGI* (PL5.1.10) ANALYSIS** **Does the *Actuator Regi* expose the sensing point of the Sensor Photo:Regi when a sheet of paper strikes the actuator, and does the *Actuator Regi* shield the sensing point of the *Sensor Regi* when there is no paper striking the actuator?**	Go to step 5.	Replace the *Actuator Regi* (RRP5.1.3)
5	***SENSOR PHOTO:REGI* (PL5.1.12) ANALYSIS** Use SENSOR/SWITCH CHECK to check the *Sensor Photo:Regi*. **Does the Sensor Photo:Regi function correctly and increment the displayed SENSOR CHECK number each time you actuate it?**	Replace the *PWBA HKB26 MCU* (RRP1.01.5).	Go to Base Engine Level 2 FIPs 7.7 Sensor Photo Regi Failure

3.2 OPTION TRAY UNIT FAIL

The Option Tray Assy is removed after the printer initial configuration is established.

Step	Actions and Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • *PWBA Size Option* (PL11.1.7) • *Harness Assy Size M (J51-P511)* (PL11.1.13) • *Harness Assy Size Option* (PL11.1.5) • *Harness Assy Feeder (J33-J331)* (PL9.1.13) • *PWBA HKB26 MCU* (PL10.1.17) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to step 2.	Replace the problem components.
2	1. Check the connection of *Harness Assy Size Option* (PL11.1.5) and *Harness Assy Size M (J51-P511)* (PL11.1.13). **Is the *Harness Assies* connected firmly?**	Go to step 3.	Connect the *Harness Assies* firmly again.
3	***HARNESS ASSY SIZE M (J51-P511)* (PL11.1.13) ANALYSIS** 1. Check the continuity between J511-A-5 and J51-3. **Is there the continuity between J511-A-5 and J51-3?**	Go to step 4.	Replace the *Harness Assy Size M*.
4	***HARNESS ASSY SIZE OPTION* (PL11.1.5) ANALYSIS** 1. Check the continuity between J52-3 and J521-A-5. **Is there the continuity between J52-3 and J521-A-5?**	Replace the *PWBA Size Option* (RRP11.1.5)	Replace the *Harness Assy Size Option*.
5	**Does the Error still appear?**	Replace the *PWBA HKB26 MCU* (RRP10.1.7).	Problem is solved.

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Section 6: Level 2 Fault Isolation Procedure Contents

6.1 Switch Size Failure. . . . . .TRAY 6-2

6.1 Switch Size Failure

Step	Actions and Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • *Cassette Assy* (PL2.1.1) • *Switch Size on the PWBA Size Option* (PL11.1.7) • *PWBA MCU26 PWB* (PL10.1.13) • *PWBA HKB PS* (PL10.1.17) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to step 2.	Replace the problem components0.
2	***ACTUATOR CST* (PL2.1.19) ANALYSIS** Remove the *Cassette Assy* from the *Option Feeder Assy*. Press and release each *Actuator for CST*. **Does each *Actuator CST* move smoothly?**	Go to step 3.	Replace the *Cassette Assy.*
3	***SWITCH SIZE* on the *PWBA SIZE OPTION* ANALYSIS** Use SENSOR/SWITCH CHECK to check the *Switch Size*. Push and release the *Cam SW* (PL11.1.11) respectively manually and observe the increment of the SENSOR CHECK counter. **Does the counter increment followed by the push and release of the *Cam SW*?**	Replace the *PWBA HKB26 MCU* (RRP10.1.7).	Replace the *PWBA Size Option.*

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Section 10 - Removal and Replacement Procedures

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Section 10 - Removal and Replacement Procedures (RRPs)

This section contains the removal and replacement procedure for main parts of the Option Feeder.

Preparation

1. Switch OFF the main power.
2. Disconnect the AC power cord from the wall outlet, then start work.
3. Remove the *Cassette Assy* (PL 11.1.18).
4. In performing work for the *FUSER ASSY* periphery, wait until the *FUSER ASSY* and its periphery have become cool enough.
5. Disconnect all interface cables from the rear panel of printer.
6. In performing work, to eliminate static electricity in your body, wear wristbands, etc. to take grounding properly.

Work Notes

NOTE

Many kinds of screws are used, and do not confuse where they are used. Using wrong screws could cause the tapped holes to be broken, or troubles to occur.

NOTE

In performing work with parts that are managed as spare parts but its procedure is not given, make sure how the parts have been mounted before starting work.

NOTE

Optional parts, as a rule, should be removed, but they may be left in the printer, on condition that they do not obstruct your work.

Section 10 - Removal and Replacement Procedures continued

Notations in the RRP text

・The printer orientation expressed in the procedure is defined as follows

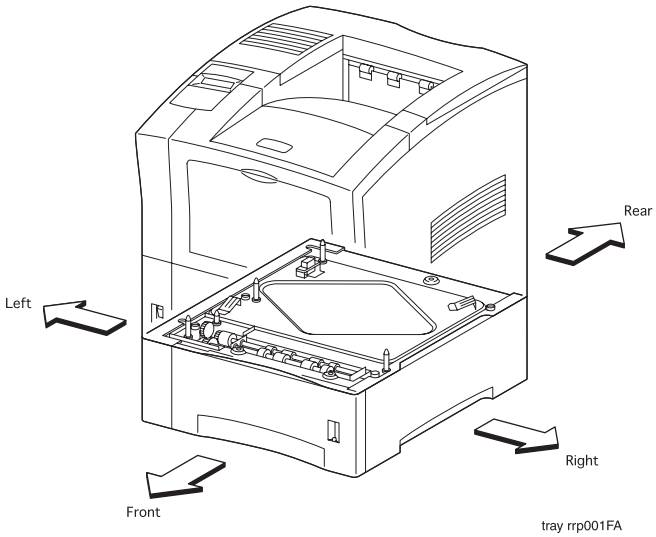

Figure 1. Definition of Printer Orientation

・RRP X.Y.Z “AAAAA” at the top of procedure implies that the part name to be removed/replaced is “AAAAA”.

・“(PLX.Y.Z)” following part name in the procedure implies that this part corresponds to the plate (PL)“X.Y”, item “Z” in Section 12 Parts List. Therefore, the shape and mounting position of the parts can be confirmed in Section 12 Parts List.

・“(RRP X.Y.Z.)” in the text or at the end of text in the procedure implies that reference work procedure is given in “RRP X.Y.Z”.

・The screws in the illustration imply that they should be loosened and removed using a cross-tip screwdriver, unless otherwise specified.

・A black arrow in the illustration implies that the part should be moved in the arrow direction, and when numbers are assigned to black arrows, the parts should be moved in the order of given numbers.

・For the location of connectors (P/J), refer to [Section 11 P/J Location].

Section 10 - Removal and Replacement Procedures (RRPs) continued

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RRP 11.1.1 Option Feeder Assy (PL11.1.1)

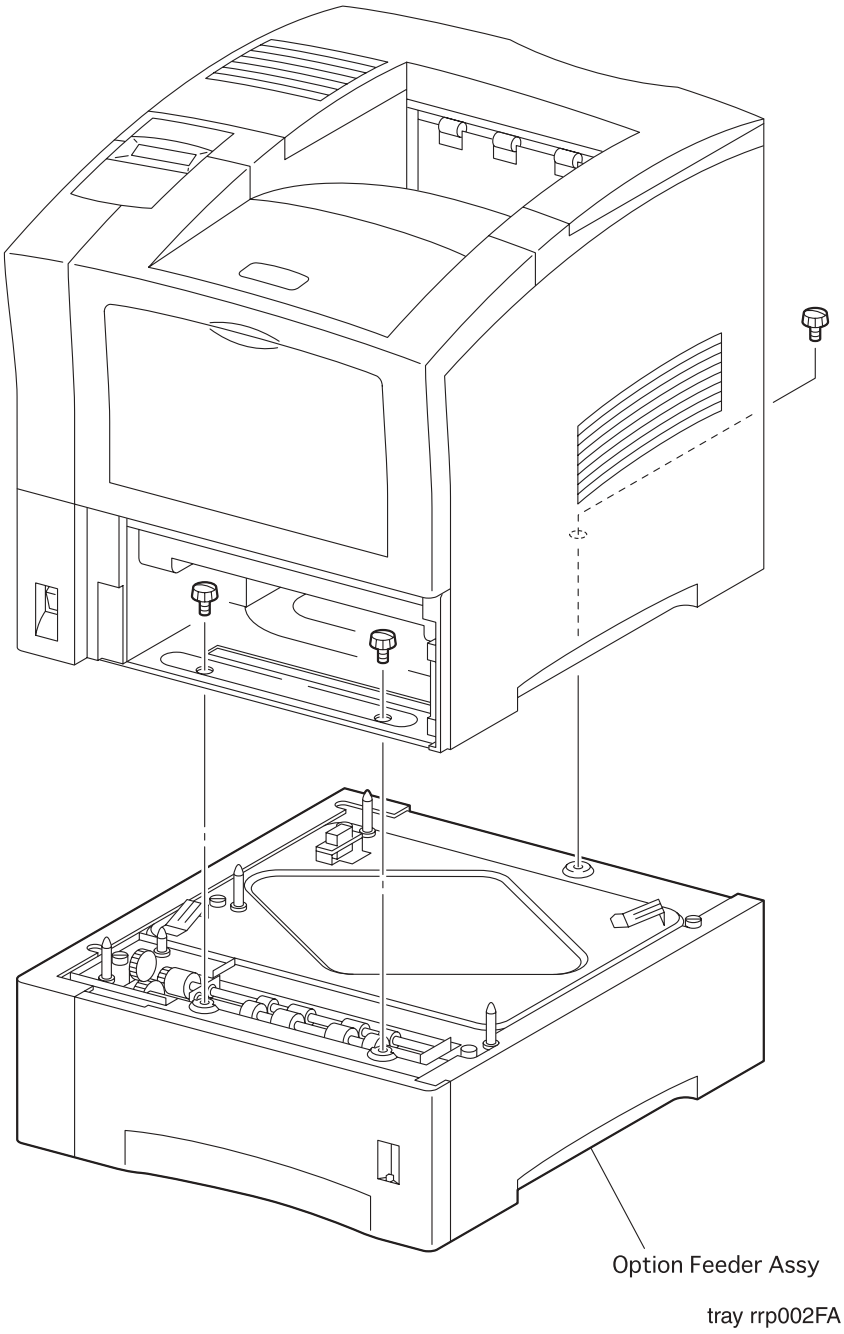

Figure 2.

RRP 11.1.1 Option Feeder Assy (PL11.1.1) continued

Removal

1. Remove the three screws securing the *Option Feeder Assy* to the printer.
2. Raising the printer, remove the *Option Feeder Assy* from the printer.

Replacement

1. Align the printer with its mount position to the *Option Feeder Assy*.
2. Secure the *Option Feeder Assy* to the printer with three screws.

RRP 11.1.2 Bracket Assy OPT Gear (PL11.1.2)

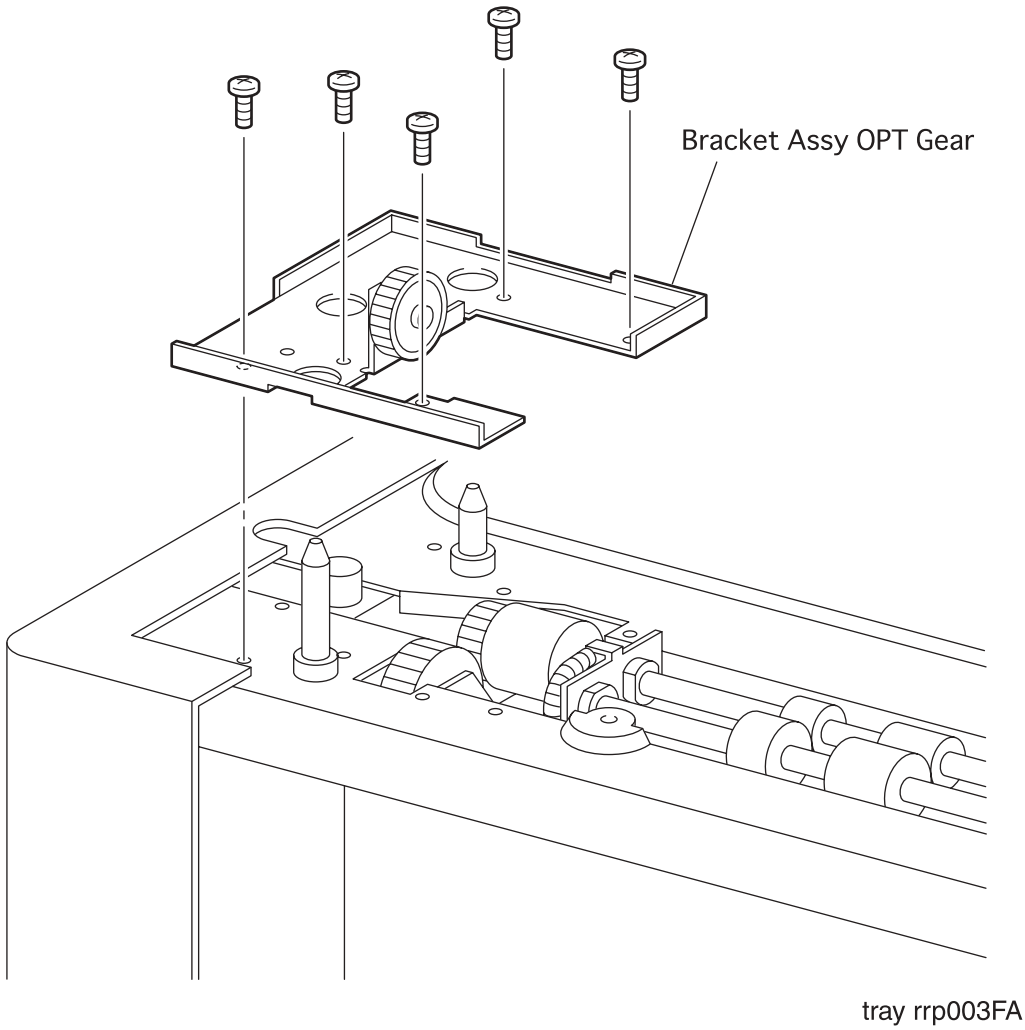

Figure 3.

RRP 11.1.2 Bracket Assy OPT Gear (PL11.1.2) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the five screws securing the *Bracket Assy OPT Gear* to the *Option Feeder Assy*.
3. Remove the *Bracket Assy OPT Gear* from the *Option Feeder Assy*.

Replacement

1. Align the *Bracket Assy OPT Gear* with its mount position to the *Option Feeder Assy*.
2. Secure the *Bracket Assy OPT Gear* to the *Option Feeder Assy* with five screws.
3. Mount the *Option Feeder Assy*.

RRP 11.1.3 Plate Top F (PL11.1.4)

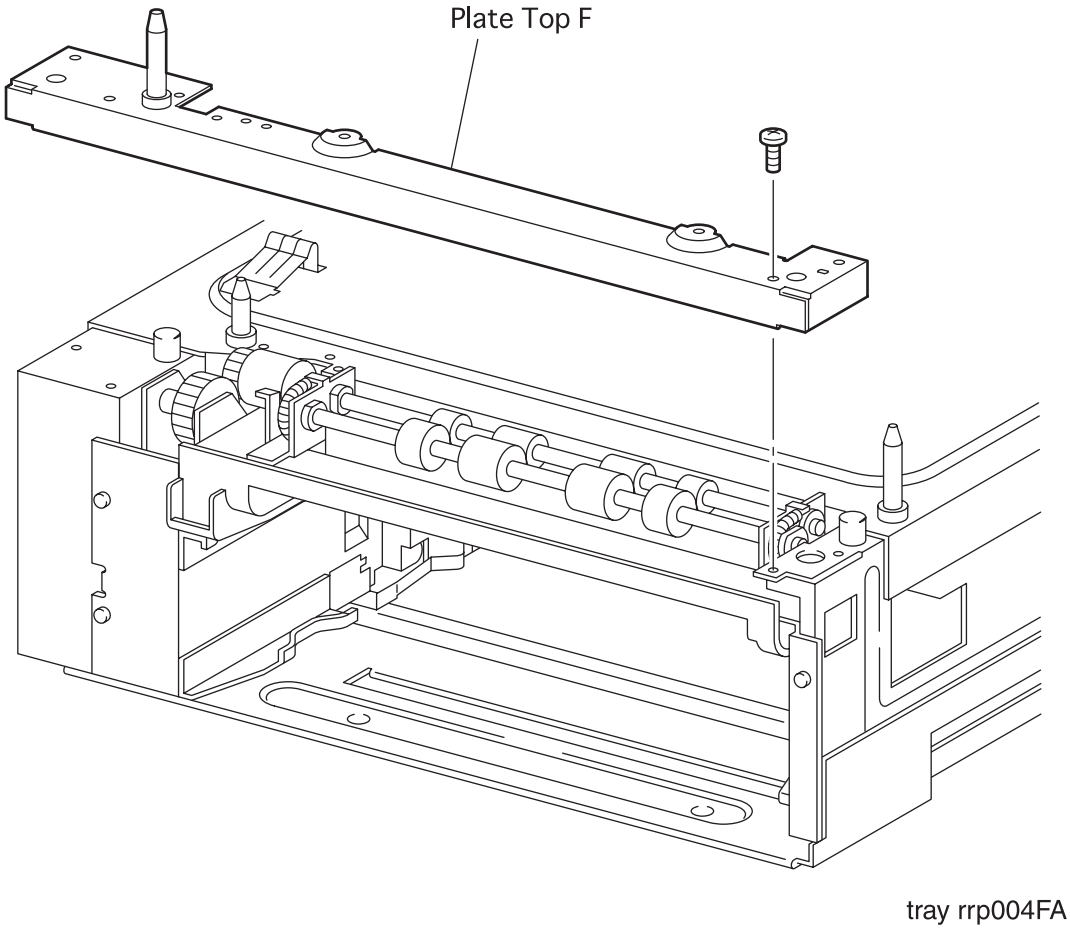

Figure 4.

RRP 11.1.3 Plate Top F (PL11.1.4) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the one screw securing the *Plate Top F* to the *Option Feeder Assy*.
6. Remove the *Plate Top F* from the *Option Feeder Assy*.

Replacement

1. Align the *Plate Top F* with its mount position to the *Option Feeder Assy*.
2. Secure the *Plate Top F* to the *Option Feeder Assy* with one screw.
3. Mount the *Housing Side L* (RRP 11.1.9).
4. Mount the *Housing Side R* (RRP 11.1.7).
5. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
6. Mount the *Option Feeder Assy* (RRP 11.1.1)

RRP 11.1.4 Harness Assy Size Option (PL11.1.5)

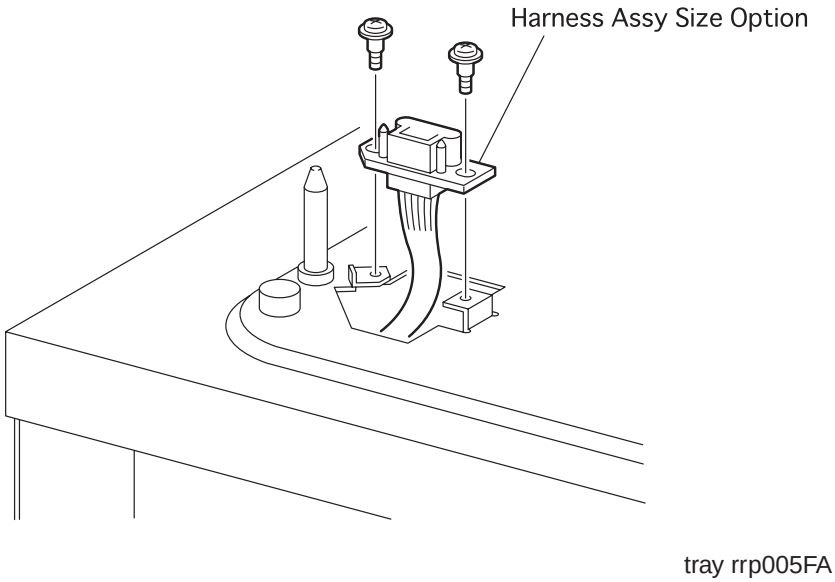

Figure 5.

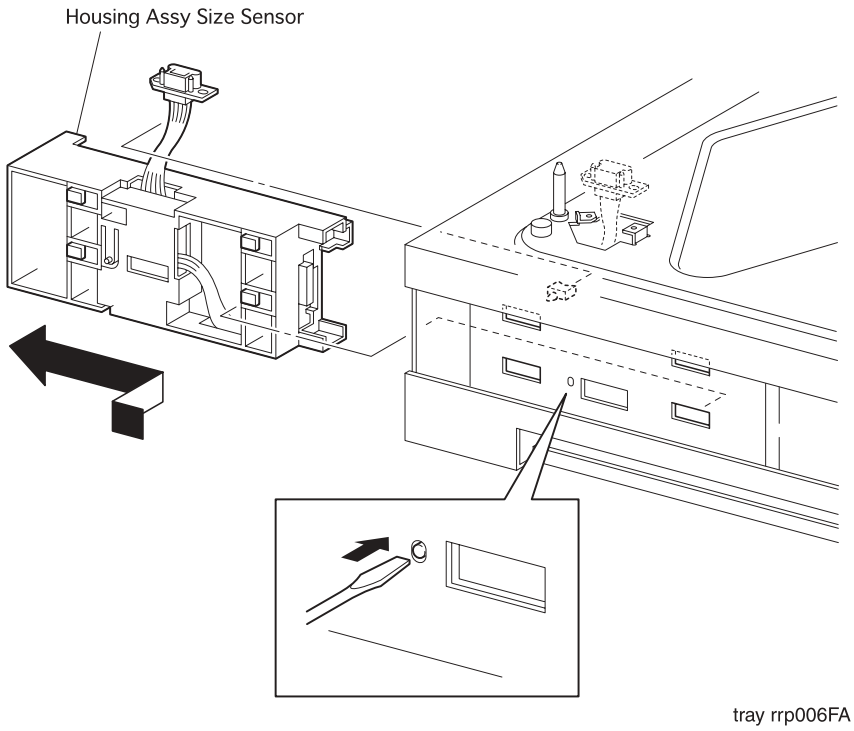

Figure 6.

RRP 11.1.4 Harness Assy Size Option (PL11.1.5) continued

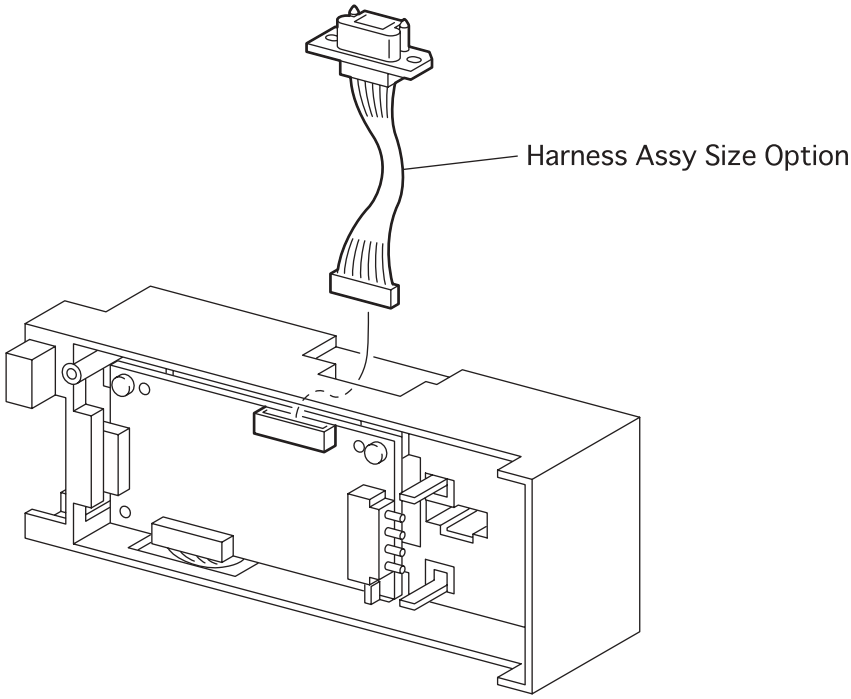

Figure 7.

RRP 11.1.4 Harness Assy Size Option (PL11.1.5) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Housing Side L* (RRP 11.1.9).
3. Remove the two screws securing the *Harness Assy Size Option* to the *Option Feeder Assy* (PL 11.1.1).
4. Insert the *Harness Assy Size Option* into the hole in the *Option Feeder Assy*.
5. Using a small screwdriver, push one boss that secures the *Housing Assy Size Sensor* to the *Option Feeder Assy* to disengage the boss from the hole.
6. Draw toward the rear the *Housing Assy Size Sensor* together with *Harness Assy Size Option* from the *Option Feeder Assy*.
7. Remove the *Size Sensor Housing* (RRP 11.1.10).
8. Unplug the connector (P/J52) of the *Harness Assy Size Option* from the *PWBA Size Option* (PL 11.1.7).
9. Remove the *Housing Assy Size Sensor* from the *Housing Assy Size Sensor*.

Replacement

1. Insert the harness of *Housing Assy Size Sensor* into a hole in the *Housing Assy Size Sensor* .
2. Plug the connector (P/J52) of the *Harness Assy Size Option* to the *PWBA Size Option* (PL11.1.7).
3. Mount the *Size Sensor Housing* (RRP 11.1.10).
4. Align four hooks of *Housing Assy Size Sensor* together with *Harness Assy Size Option* with four holes in the *Option Feeder Assy* (PL11.1.1).
5. Pushing the rear of *Housing Assy Size Sensor*, slide it toward the front, and engage four hooks of *Housing Assy Size Sensor* with four holes in the *Option Feeder Assy*.
6. Insert the *Harness Assy Size Option* into a hole in the *Option Feeder Assy*.
7. Align the *Harness Assy Size Option* with its mount position to the *Option Feeder Assy*.
8. Secure the *Harness Assy Size Option* to the *Option Feeder Assy* with two screws.
9. Mount the *Housing Side L* (RRP 11.1.9).
10. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.4 Harness Assy Size Option (PL11.1.5) continued

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RRP 11.1.5 PWBA Size Option (PL11.1.7)

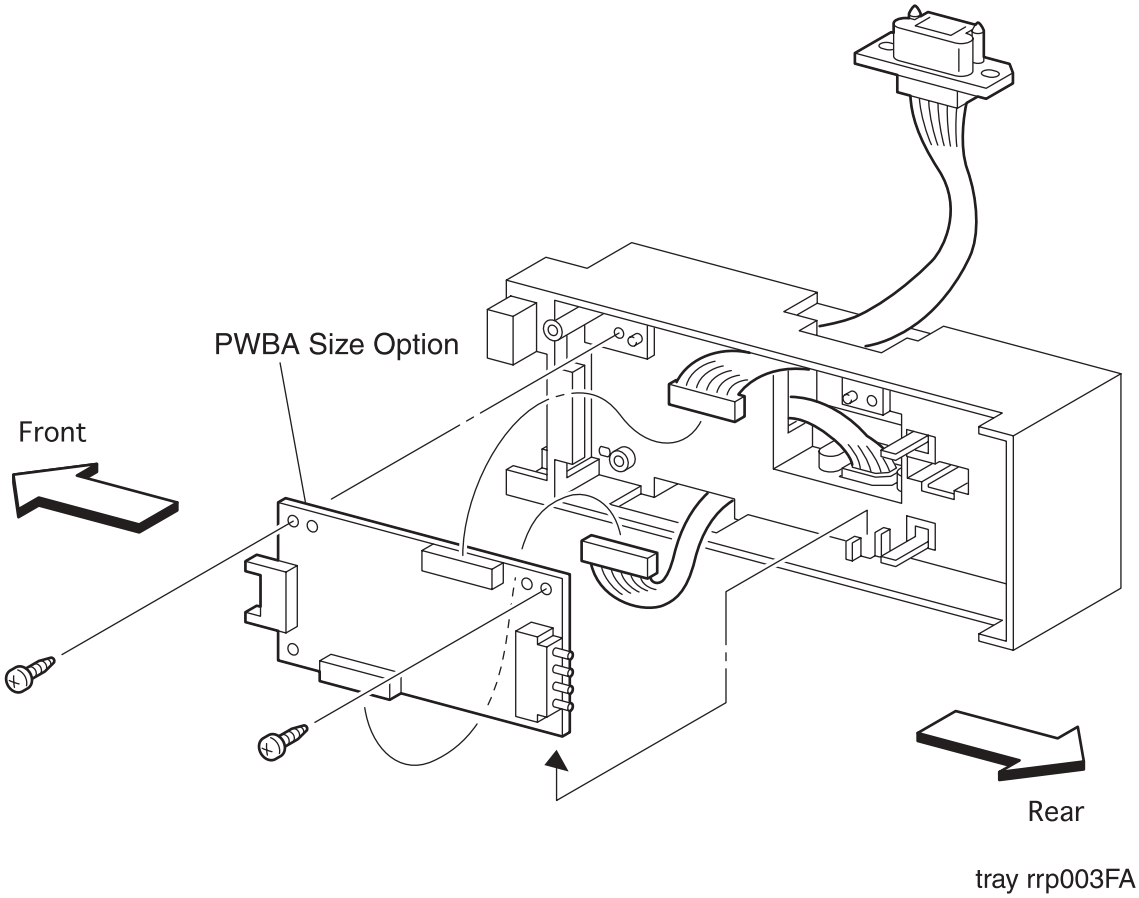

Figure 8.

RRP 11.1.5 PWBA Size Option (PL11.1.7) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Housing Side L* (RRP 11.1.9).
3. Remove the *Harness Assy Size Option* (RRP 11.1.4).
4. Remove the *Housing Assy Size Sensor* (RRP 11.1.11).
5. Remove the *Size Sensor Housing* (RRP 11.1.10).
6. Unplug the connector (P/J53) from the *PWBA Size Option*.
7. Remove the two screws securing the *PWBA Size Option* to the *Housing Assy Size Sensor* .
8. Remove the *PWBA Size Option* from the *Housing Assy Size Sensor*.

Replacement

1. Align the *PWBA Size Option* with its mount position to the *Housing Assy Size Sensor* .
2. Secure the *PWBA Size Option* to the *Housing Assy Size Sensor* with two screws.
3. Plug the connector (P/J53) to the *PWBA Size Option*.
4. Mount the *Size Sensor Housing* (RRP 11.1.10).
5. Mount the *Housing Assy Size Sensor* (RRP 11.1.11).
6. Mount the *Harness Assy Size Option* (RRP 11.1.4).
7. Mount the *Housing Side L* (RRP 11.1.9).
8. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.6 Harness Assy Size M (PL11.1.13)

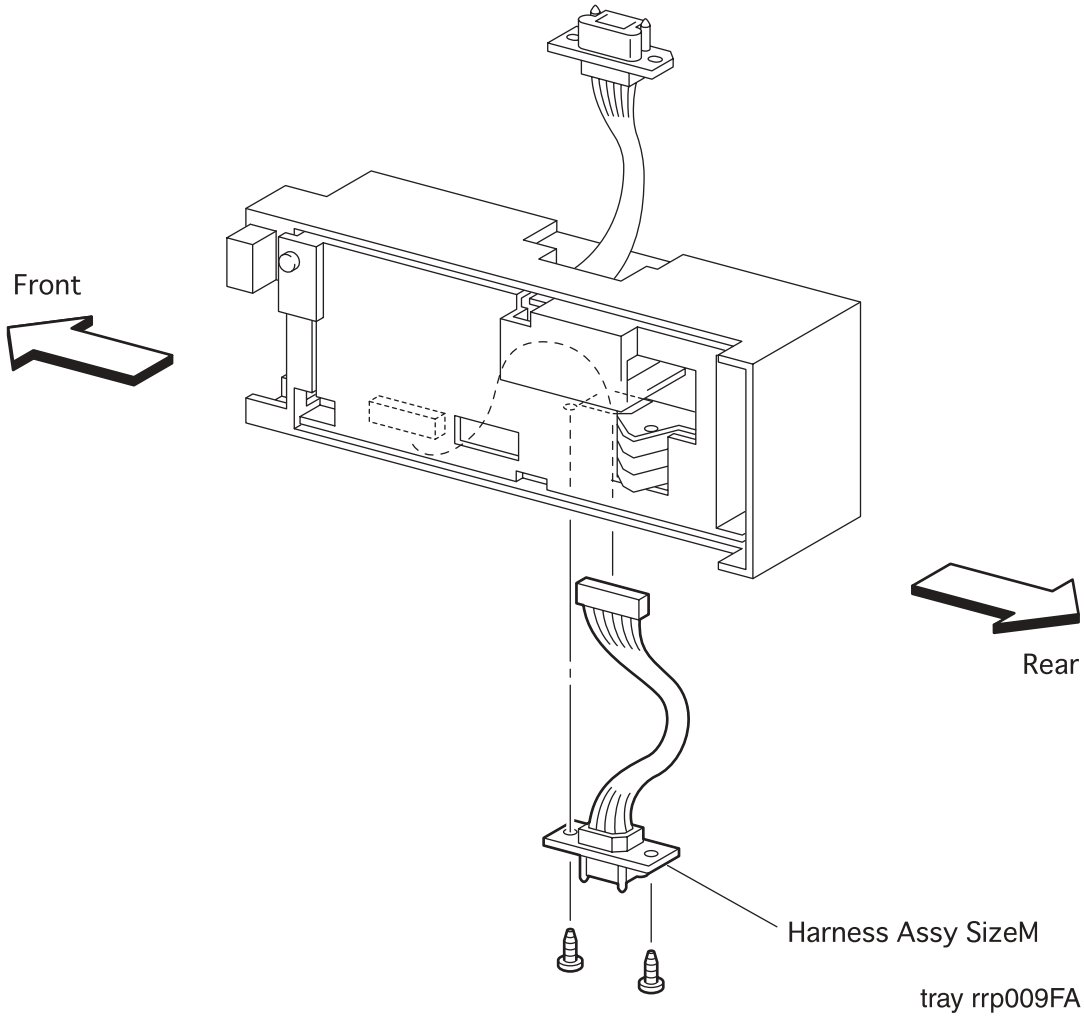

Figure 9.

RRP 11.1.6 Harness Assy Size M (PL11.1.13) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Housing Side L* (RRP 11.1.9).
3. Remove the *Harness Assy Size Option* (RRP 11.1.4).
4. Remove the *Housing Assy Size Sensor* (RRP 11.1.11).
5. Remove the *Size Sensor Housing* (RRP 11.1.10).
6. Unplug the connector (P/J53) from the *PWBA Size Option*.
7. Remove the two screws securing the *Harness Assy Size M* to the *Housing Assy Size Sensor* .
8. Remove the *Harness Assy Size M* from the *Housing Assy Size Sensor*.

Replacement

1. Align the *Harness Assy Size M* with its mount position to the *Housing Assy Size Sensor* .
2. Secure the *Harness Assy Size M* to the *Housing Assy Size Sensor* with two screws.
3. Plug the connector (P/J53) to the *PWBA Size Option*.
4. Mount the *Size Sensor Housing* (RRP 11.1.10).
5. Mount the *Housing Assy Size Sensor* (RRP 11.1.11).
6. Mount the *Harness Assy Size Option* (RRP 11.1.4).
7. Mount the *Housing Side L* (RRP 11.1.9).
8. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.7 Housing Side R (PL11.1.16)

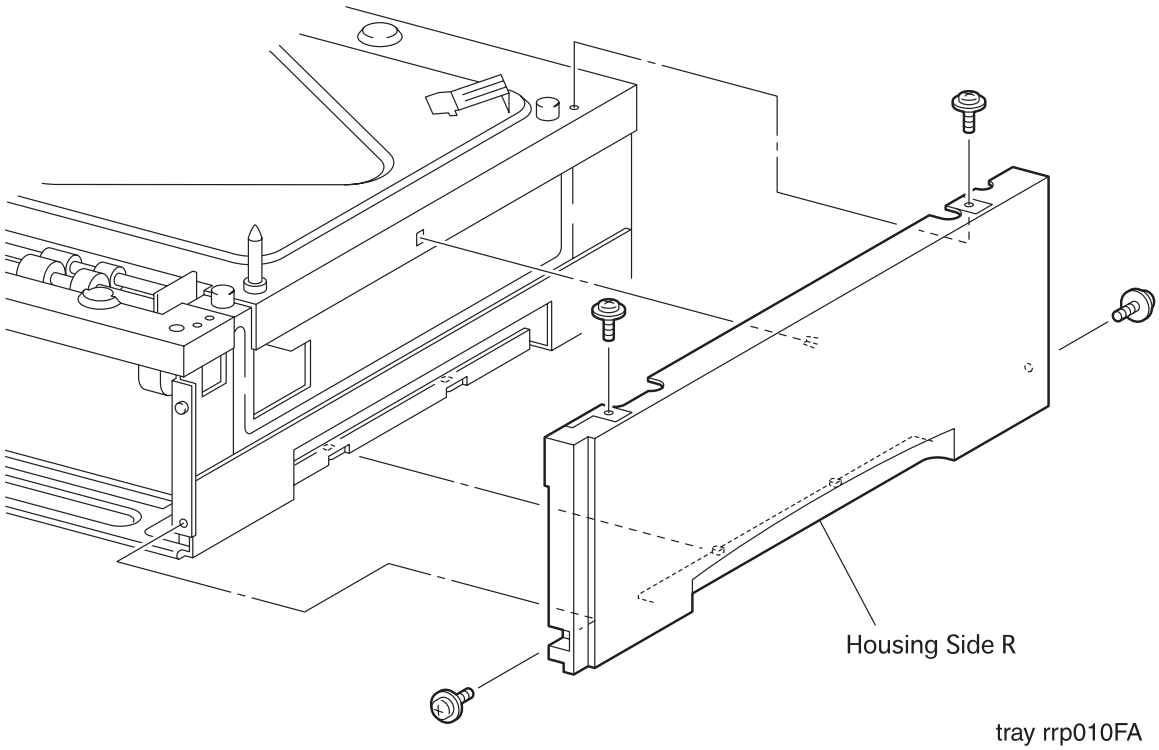

Figure 10.

RRP 11.1.7 Housing Side R (PL11.1.16) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the four screws securing the *Housing Side R* to the *Option Feeder Assy* (PL11.1.1).
3. Raising the right side of *Option Feeder Assy* a little, remove the *Housing Side R*.

Replacement

1. Raising a little the right side of *Option Feeder Assy* (PL11.1.1), mount the *Housing Side R* in exact position.
2. Secure the *Housing Side R* to the *Option Feeder Assy* with four screws.
3. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.8 Feeder (PL11.1.18)

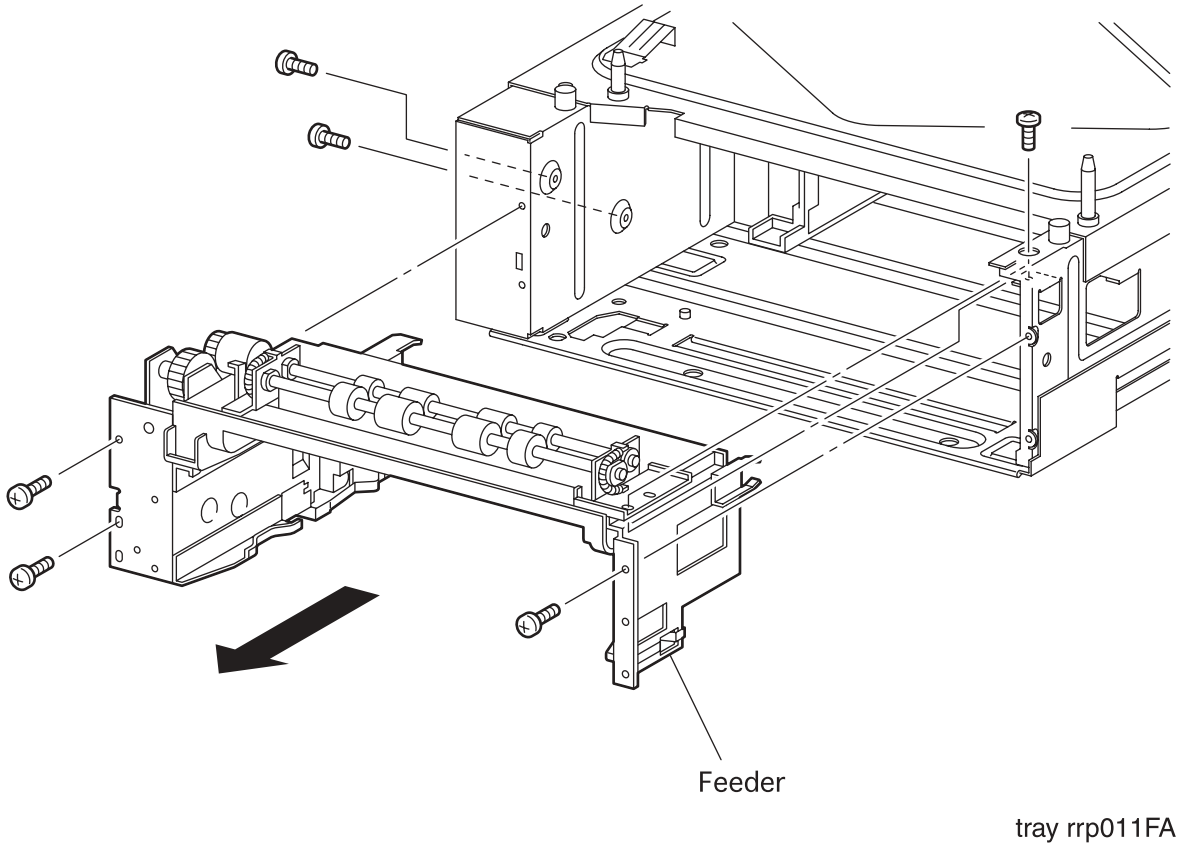

Figure 11.

RRP 11.1.8 Feeder (PL11.1.17) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the seven screws securing the *Feeder* to the *Option Feeder Assy* (PL11.1.1).
7. Draw the *Feeder* from the *Option Feeder Assy* toward the front.

Replacement

1. Align the *Feeder* with its mount position to the *Option Feeder Assy* (PL11.1.1).
2. Secure the *Feeder* with seven screws to the *Option Feeder Assy*.
3. Mount the *Plate Top F* (RRP 11.1.3).
4. Mount the *Housing Side L* (RRP 11.1.9).
5. Mount the *Housing Side R* (RRP 11.1.7).
6. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
7. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.9 Housing Side L (PL11.1.19)

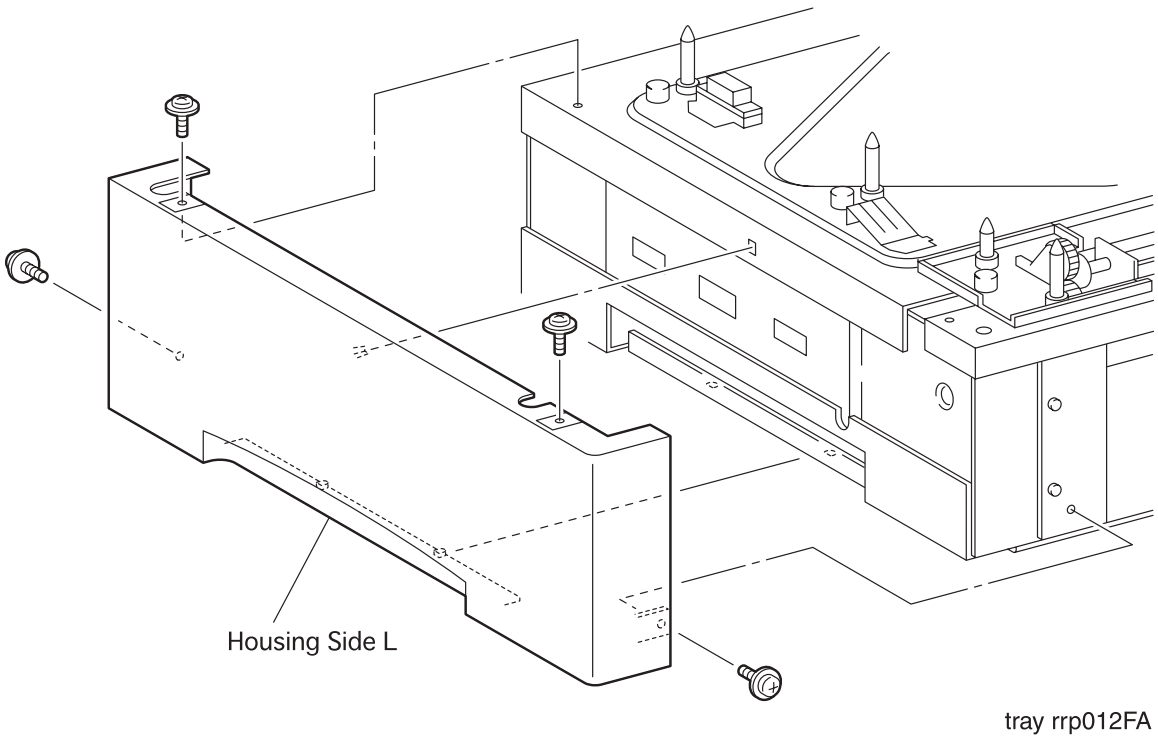

Figure 12.

RRP 11.1.9 Housing Side L (PL11.1.19) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the four screws securing the *Housing Side L* to the *Option Feeder Assy* (PL11.1.1).
3. Raising the left side of *Option Feeder Assy* a little, remove the *Housing Side L*.

Replacement

1. Raising a little the left side of *Option Feeder Assy* (PL11.1.1), mount the *Housing Side L* in exact position.
2. Secure the *Housing Side L* to the *Option Feeder Assy* with four screws.
3. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.1.10 Size Sensor Housing (with8-12)(Reference Only)

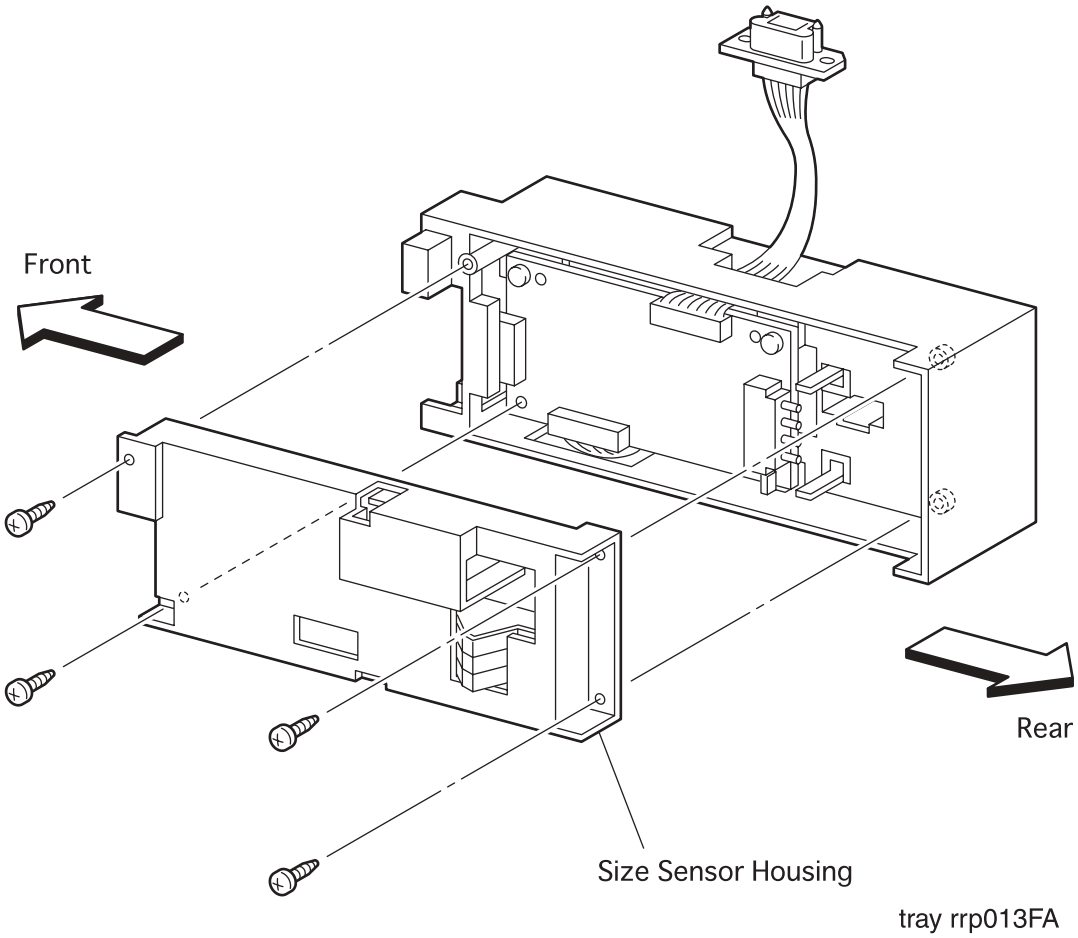

Figure 13.

RRP 11.1.10 Size Sensor Housing (with8-12) (Reference Only) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Housing Side L* (RRP 11.1.9).
3. Remove the *Harness Assy Size Option* (RRP 11.1.4).
4. Remove the *Housing Assy Size Sensor* (RRP 11.1.11).
5. Remove the *Size Sensor Housing* (RRP 11.1.10).
6. Remove the four screws securing the *Size Sensor Housing* to the *Housing Assy Size Sensor* .
7. Disengage two hooks of *Size Sensor Housing* from the *Housing Assy Size Sensor*.
8. Remove the *Size Sensor Housing* from the *Housing Assy Size Sensor*.

Replacement

1. Disengage the back of *Cam SW* (PL11.1.11) on *Size Sensor Housing* from a square hole, and while holding the back of *Cam SW*, mount the *Size Sensor Housing* on the *Housing Assy Size Sensor*.
2. Secure the *Size Sensor Housing* to the *Housing Assy Size Sensor* with two hooks.
3. Secure the *Size Sensor Housing* to the *Housing Assy Size Sensor* with four screws.
4. Mount the *Size Sensor Housing* (RRP 11.1.10).
5. Mount the *Housing Assy Size Sensor* (RRP 11.1.11).
6. Mount the *Harness Assy Size Option* (RRP 11.1.4).
7. Mount the *Housing Side L* (RRP 11.1.9).
8. Mount the *Option Feeder Assy* (RRP 11.1.1)

RRP 11.1.11 Housing Assy Size Sensor (with5-13)(Reference Only)

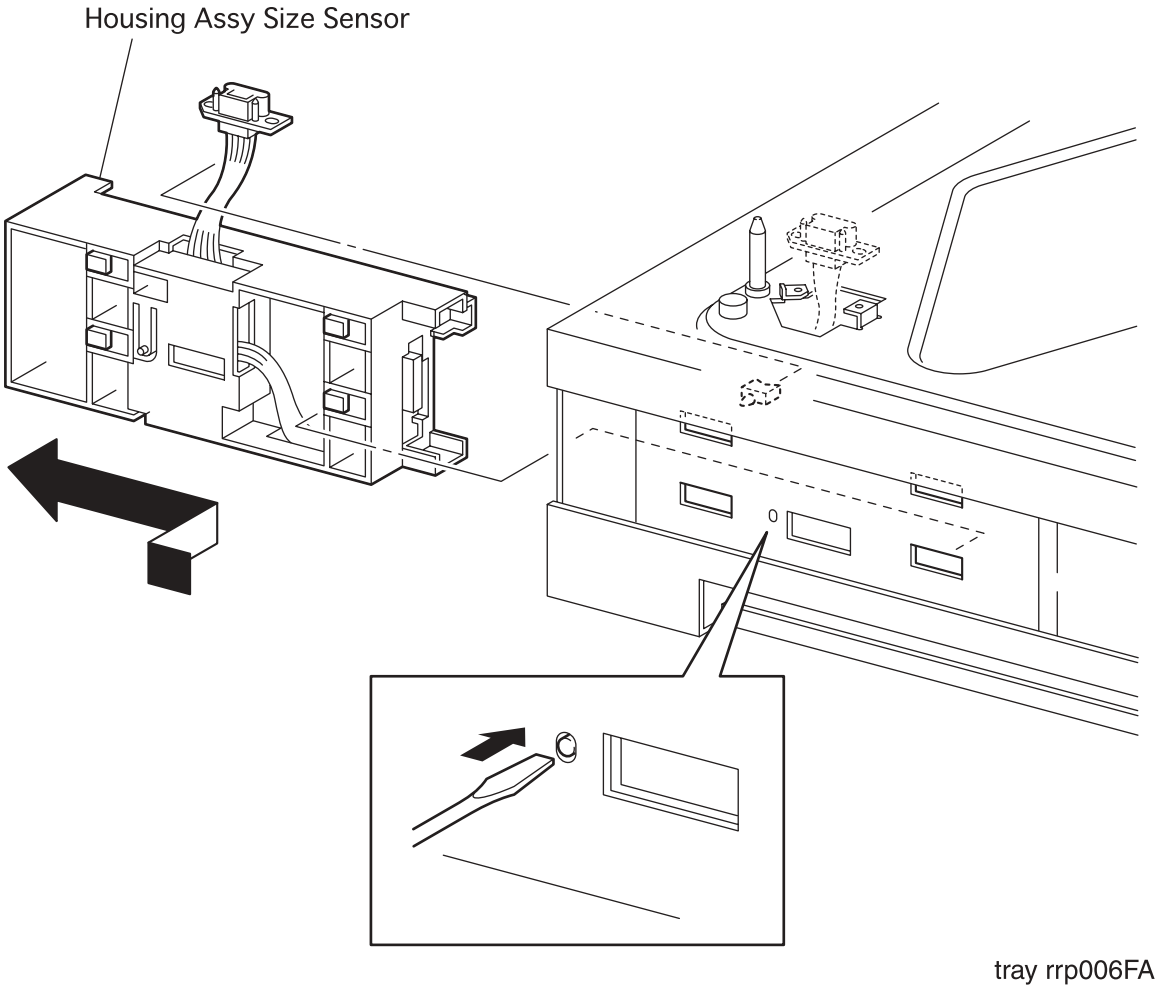

Figure 14.

RRP 11.1.11 Housing Assy Size Sensor (with5-13)(Reference Only) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Housing Side L* (RRP 11.1.9).
3. Remove the two screws securing the *Harness Assy Size Option* to the *Option Feeder Assy* (PL 11.1.1).
4. Insert the *Harness Assy Size Option* into the hole in the *Option Feeder Assy*.
5. Using a small screwdriver, push one boss that secures the *Housing Assy Size Sensor* to the *Option Feeder Assy* to disengage the boss from the hole.
6. Draw toward the rear the *Housing Assy Size Sensor* together with *Harness Assy Size Option* from the *Option Feeder Assy*.
7. Remove the *Size Sensor Housing* (RRP 11.1.10).
8. Unplug the connector (P/J52) of the *Harness Assy Size Option*.
9. Remove the *Housing Assy Size Sensor* from the *Housing Assy Size Sensor*.
10. Remove the *Size Sensor Housing* from the *Housing Assy Size Sensor* (RRP 11.1.10) .

Replacement

1. Mount the *Size Sensor Housing* (RRP 11.1.10).
2. Insert the harness of *Housing Assy Size Sensor* into a hole in the *Housing Assy Size Sensor* .
3. Plug the connector (P/J52) of the *Harness Assy Size Option* to the *PWBA Size Option* (PL 11.1.7).
4. Mount the *Size Sensor Housing* (RRP 11.1.10).
5. Align four hooks of *Housing Assy Size Sensor* together with *Harness Assy Size Option* with four holes in the *Option Feeder Assy* (PL11.1.1).
6. Pushing the rear of *Housing Assy Size Sensor*, slide it toward the front, and engage four hooks of *Housing Assy Size Sensor* with four holes in the *Option Feeder Assy*.
7. Insert the *Harness Assy Size Option* into a hole in the *Option Feeder Assy*.
8. Align the *Harness Assy Size Option* with its mount position to the *Option Feeder Assy*.
9. Secure the *Harness Assy Size Option* to the Option Feeder Assy with two screws.
10. Mount the *Housing Side L* (RRP 11.1.9).
11. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.1 Roll Assy Turn (PL11.2.2)

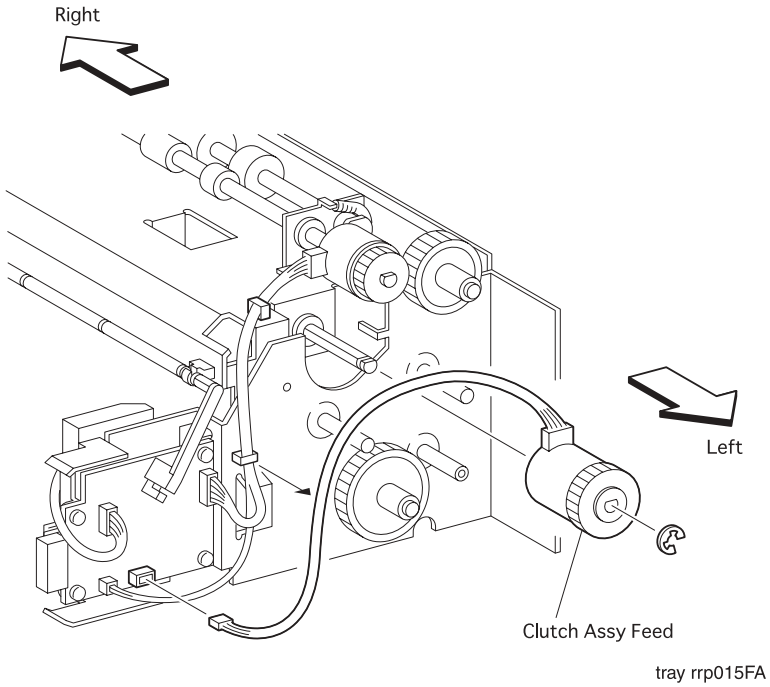

Figure 15.

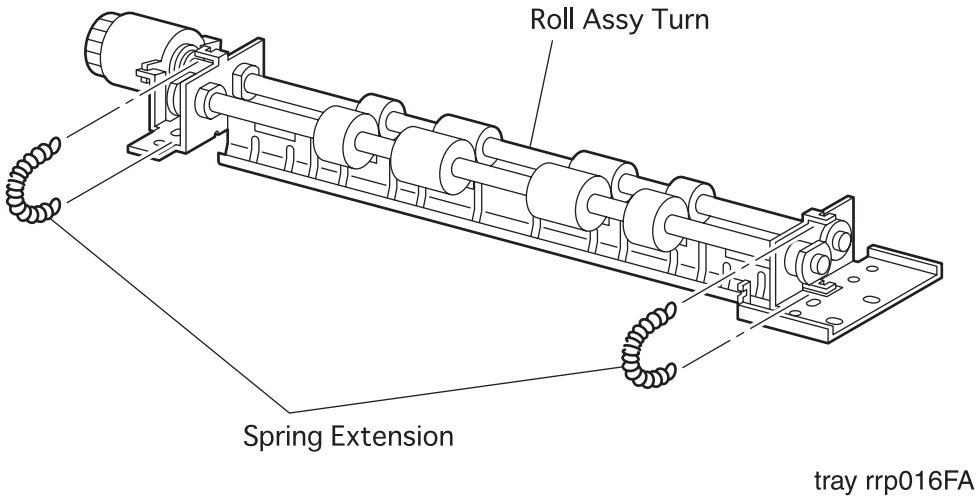

Figure 16.

RRP 11.2.1 Roll Assy Turn (PL11.2.2) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the Feeder (RRP 11.1.8).
7. Unplug the connector(P/J641) on the *Clutch Assy Turn* (PL11.2.3) from the *Feeder* (PL11.1.17).
8. Remove the four screws securing the *Roll Assy Turn* to the *Feeder*.
9. Remove the *Roll Assy Turn* together with *Spring Extension* (PL11.2.4) and Spring Chute (PL11.2.5) from the *Feeder*.
10. Remove the *Spring Chute* (RRP 11.2.2).
11. Unhook the left *Spring Extension* from two notches of *Roll Assy Turn*, and remove the *Spring Extension*.
12. Unhook the right *Spring Extension* from two notches of *Roll Assy Turn*, and remove the *Spring Extension*.

Replacement

1. Hook the *Spring Extension* (PL11.2.4) to two notches on the right side of *Roll Assy Turn* to secure the *Spring Extension* to the *Roll Assy Turn*.
2. Hook the *Spring Extension* to two notches on the left side of *Roll Assy Turn* to secure the *Spring Extension* to the *Roll Assy Turn*.
3. Mount the *Spring Chute* (RRP 11.2.2).
4. Align the *Roll Assy Turn*, together with the *Spring Extension* and *Spring Chute*, to the *Feeder*.
5. Secure the Roll Assy Turn to the *Feeder* with four screws.
6. Plug the connector (P/J641) to the *Clutch Assy Turn* (PL11.1.3) from the *Feeder*.
7. Mount the *Feeder* (RRP 11.1.8).
8. Mount the *Plate Top F* (RRP 11.1.3).
9. Mount the *Housing Side L* (RRP 11.1.9).
10. Mount the *Housing Side R* (RRP 11.1.7).
11. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
12. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.2 Spring Chute (PL11.2.5)

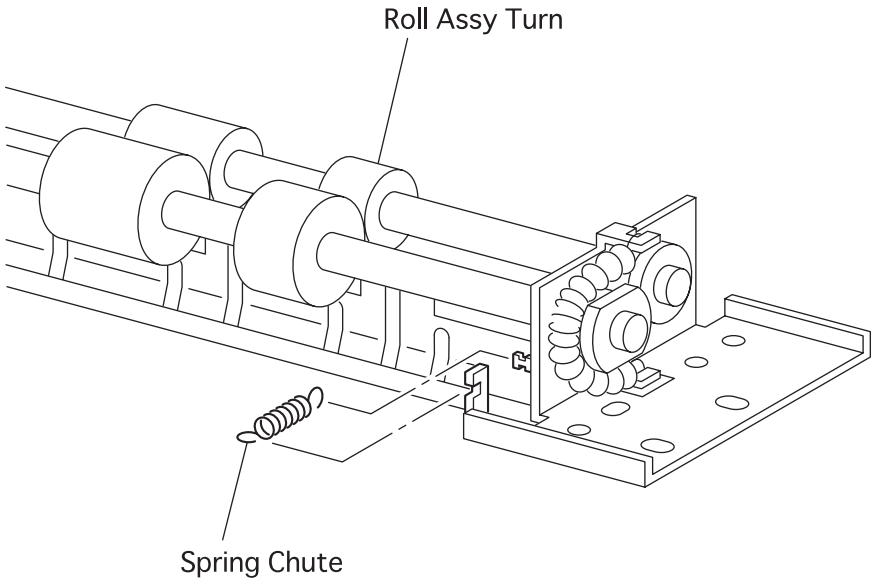

Figure 17.

RRP 11.2.2 Spring Chute (PL11.2.5) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Unplug the connector (P/J641) from the *Clutch Assy Turn* (PL11.2.3) from the *Feeder*.
8. Remove the four screws securing the *Roll Assy Turn* (PL11.2.2) to the *Feeder*.
9. Remove the *Roll Assy Turn* together with *Spring Extension* (PL11.2.4) and *Spring Chute* from the *Feeder*.
10. Unhook the *Spring Chute* securing to the *Roll Assy Turn* at two places, and remove the *Spring Chute*.

Replacement

1. Hook the *Spring Chute* to the boss of the right *Chute* of the *Roll Assy Turn* (PL11.2.2).
2. Hook the *Spring Chute* to the notch of the right bracket of the *Roll Assy Turn*.
3. Aligning the position exactly, mount the *Roll Assy Turn* together with *Spring Extension* (PL 3.2.4) and *Spring Chute* to the *Feeder*.
4. Secure the *Roll Assy Turn* to the *Feeder* with four screws.
5. Plug the connector (P/J641) to the *Clutch Assy Turn* (PL11.2.3) from the *Feeder*.
6. Mount the *Feeder* (RRP 11.1.8).
7. Mount the *Plate Top F* (RRP 11.1.3).
8. Mount the *Housing Side L* (RRP 11.1.9).
9. Mount the *Housing Side R* (RRP 11.1.7).
10. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
11. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.3 Actuator N/P (PL11.2.6)

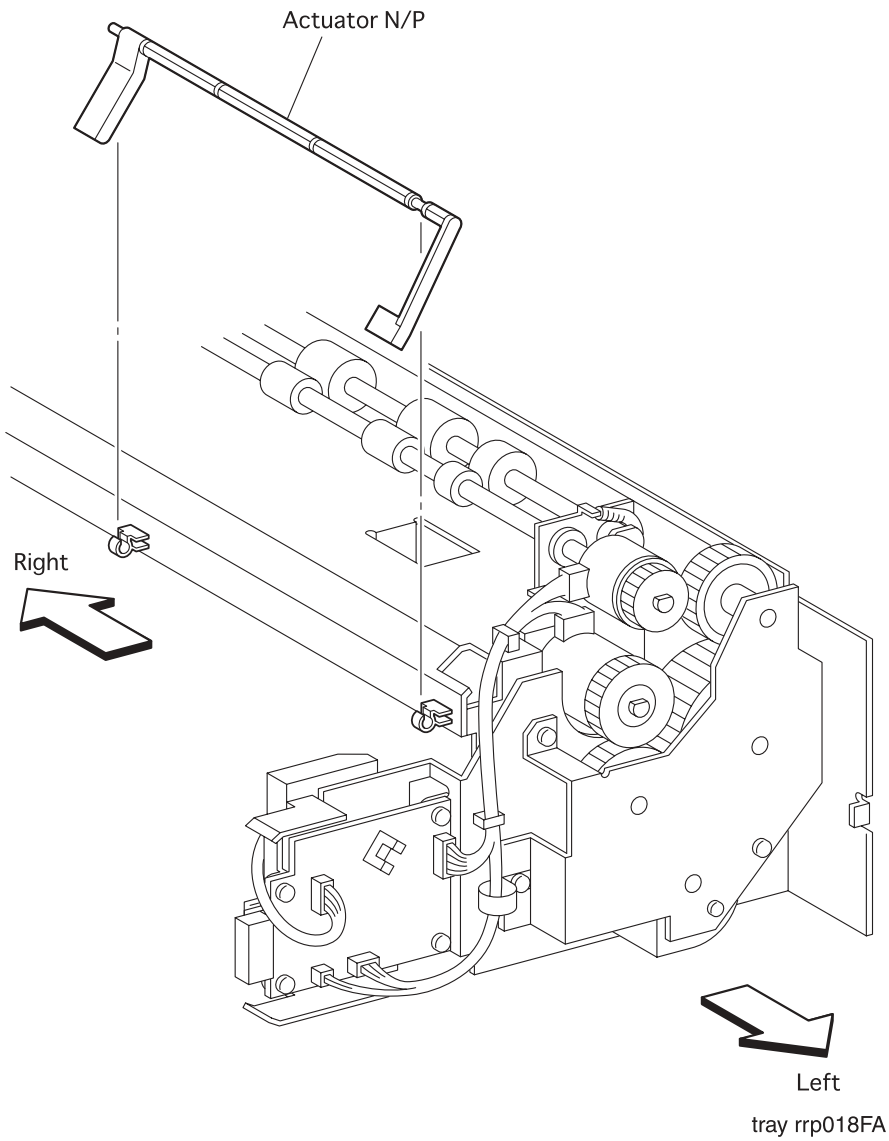

Figure 18.

RRP 11.2.3 Actuator N/P (PL11.2.6) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Unhook the left and right shafts of *Actuator N/P* from the left and right *Support Actuators* (PL11.2.7), and remove the *Actuator N/P* from the *Feeder* (PL11.1.17).

Replacement

1. Aligning the position exactly, mount the *Actuator N/P* on the left and right *Support Actuators* (PL11.2.7) of *Feeder*.
2. Insert the left and right shafts of *Actuator N/P* into the *Support Actuator*.
3. Mount the *Feeder* (RRP 11.1.8).
4. Mount the *Plate Top F* (RRP 11.1.3).
5. Mount the *Housing Side L* (RRP 11.1.9).
6. Mount the *Housing Side R* (RRP 11.1.7).
7. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
8. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.4 Sensor Photo:Face Control,Low Paper (PL11.2.13)

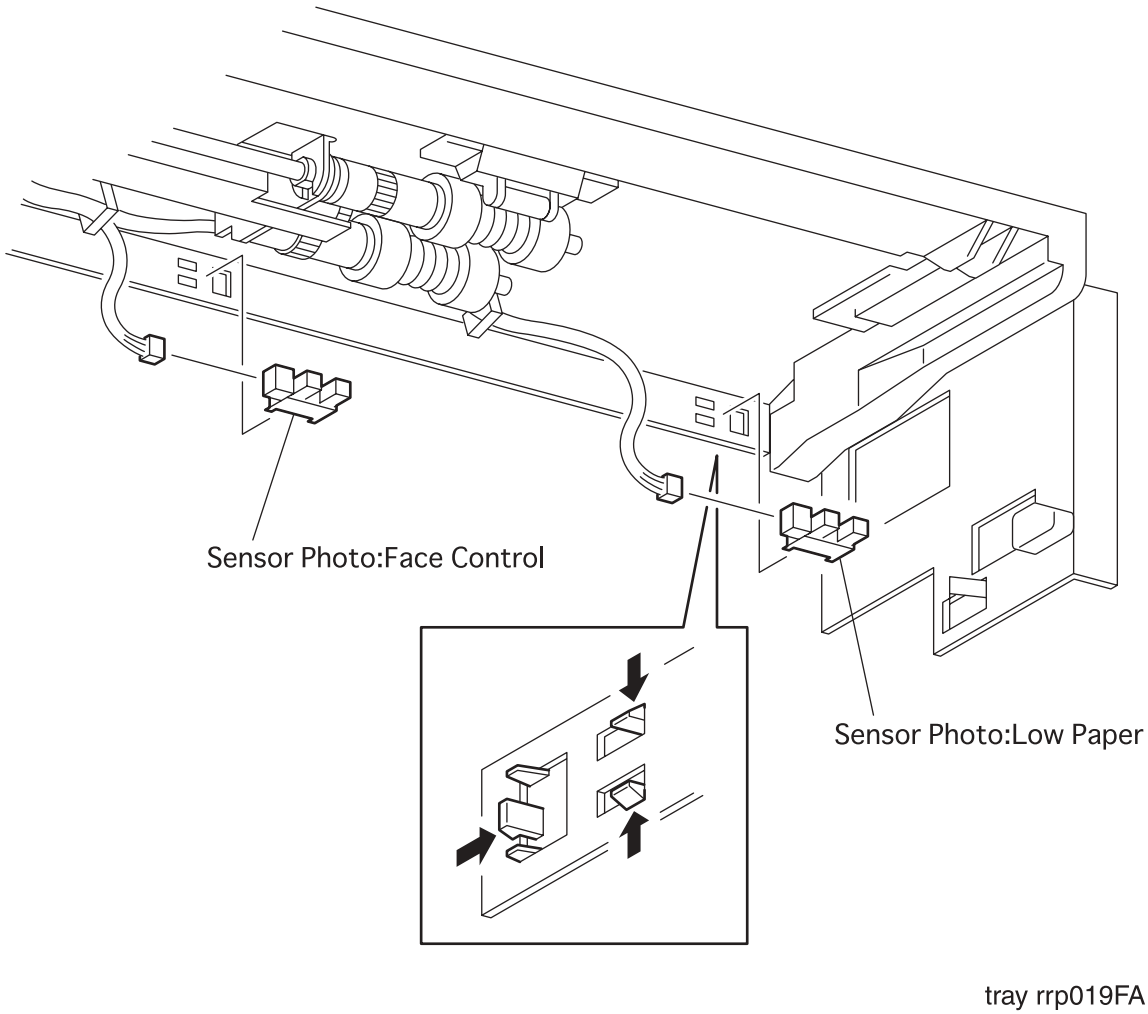

Figure 19.

RRP 11.2.4 Sensor Photo:Face Control,Low Paper(PL11.2.13) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Unplug the connector (P/J662) on the left *Sensor Photo : Face Control* from the *Feeder* (PL11.1.17).
8. Disengage five hooks of left *Sensor Photo: Face Control* from the *Feeder*, and remove the *Sensor Photo: Face Control*.
9. Unplug the connector (P/J661) on the right *Sensor Photo: Lower Paper* from the *Feeder*.
10. Disengage five hooks of right *Sensor Photo: Lower Paper* from the *Feeder*, and remove the *Sensor Photo: Lower Paper*.

Replacement

1. Secure the *Sensor Photo: Lower Paper* to the mounting hole on the right side of *Feeder* (PL11.1.17) with five hooks.
2. Plug the connector (P/J661) to the right *Sensor Photo: Lower Paper* from the *Feeder*.
3. Secure the *Sensor Photo: Face Control* to the mounting hole on the left side of *Feeder* with five hooks.
4. Plug the connector (P/J662) to the left *Sensor Photo: Face Control* from the *Feeder*.
5. Mount the *Feeder* (RRP 11.1.8).
6. Mount the *Plate Top F* (RRP 11.1.3).
7. Mount the *Housing Side L* (RRP 11.1.9).
8. Mount the *Housing Side R* (RRP 11.1.7).
9. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
10. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.5 Feeder Assy (PL11.2.19)

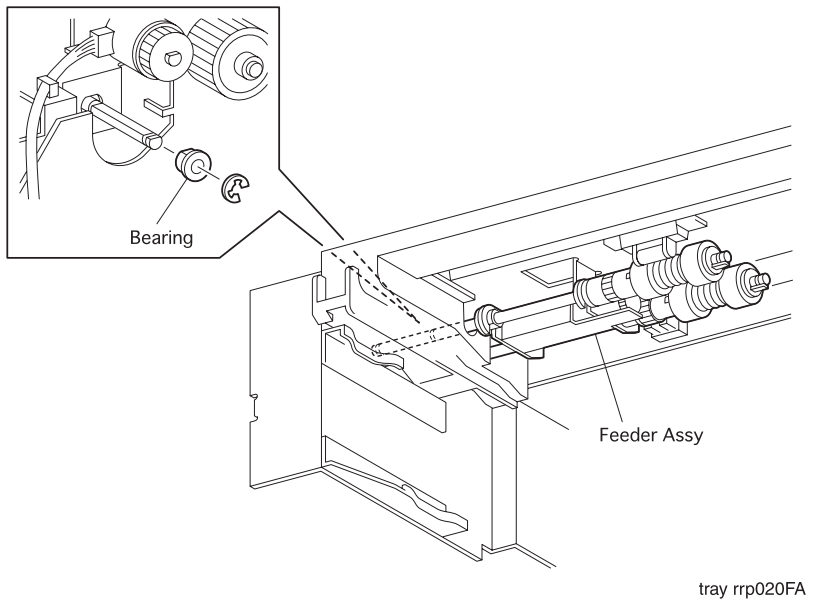

Figure 20.

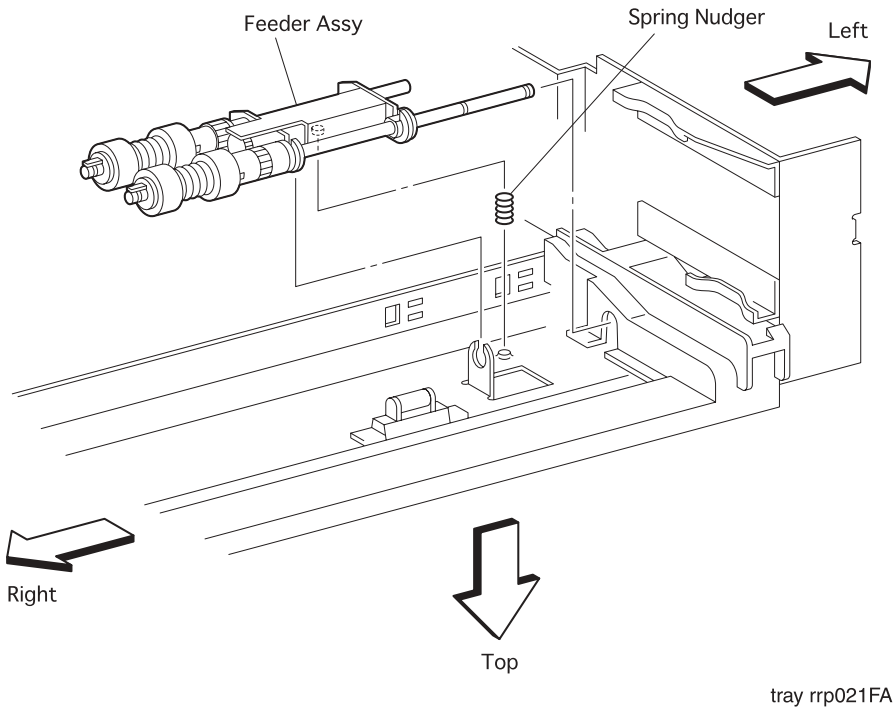

Figure 21.

RRP 11.2.5 Feeder Assy (PL11.2.19) continued

Removal

1. Remove Option *Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Remove the *Clutch Assy Feed* (RRP 11.2.8).
8. Remove the *Sensor Photo:Face Control* (RRP 11.2.4).
9. Disengage the E-ring that secures the left shaft of *Feeder Assy* to the *Feeder* (PL11.1.17).

NOTE

In the following steps, place thick paper under the *Feeder* to protect the *Roll of Roll Assy Turn* (PL3.1.1) from damage.

NOTE

In the following steps, take care not to drop and lose the *Spring Nudger* (PL3.1.29).

10. Reverse the *Feeder so that the top surface faces down.*
11. Draw the *Bearing* (PL11.2.38) securing the left shaft of *Feeder Assy* to the *Feeder*.
12. Sliding the *Feeder Assy* to the right, draw the shaft of *Feeder Assy* from the left bearing bore of the *Feeder*, and remove the *Feeder Assy* from the *Feeder*.
13. Remove the *Spring Nudger* (PL3.1.29) from the boss of *Feeder*.

RRP 11.2.5 Feeder Assy (PL11.2.19) continued

Replacement

NOTE

In the following steps, take care not to drop and lose the *Spring Nudger* (PL3.1.29).

1. Align the position exactly, mount the *Spring Nudger* (PL3.1.29) on the boss of *Feeder*.

NOTE

In the following steps, align the *Feeder Assy* position so that the leading end of *Spring Nudger* enters the boss of *Feeder Assy.*

2. Insert the lead edge of left shaft of *Feeder Assy* into the left bearing bore of *Feeder*, and slide the *Feeder Assy* to the left.
3. Secure the left shaft of *Feeder Assy* to the *Feeder* with the *Bearing* (PL11.2.38).
4. Restore the reversed *Feeder* so that the top surface faces up.
5. Secure the left shaft of *Feeder Assy* to the *Feeder* with the E-ring.
6. Mount the *Sensor Photo:Face Control* (RRP 11.2.4).
7. Mount the *Clutch Assy Feed* (RRP 11.2.8).
8. Mount the *Feeder* (RRP 11.1.8).
9. Mount the *Plate Top F* (RRP 11.1.3).
10. Mount the *Housing Side L* (RRP 11.1.9).
11. Mount the *Housing Side R* (RRP 11.1.7).
12. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
13. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.5 Feeder Assy (PL11.2.19) continued

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RRP 11.2.6 Roll Assy (PL11.2.26)

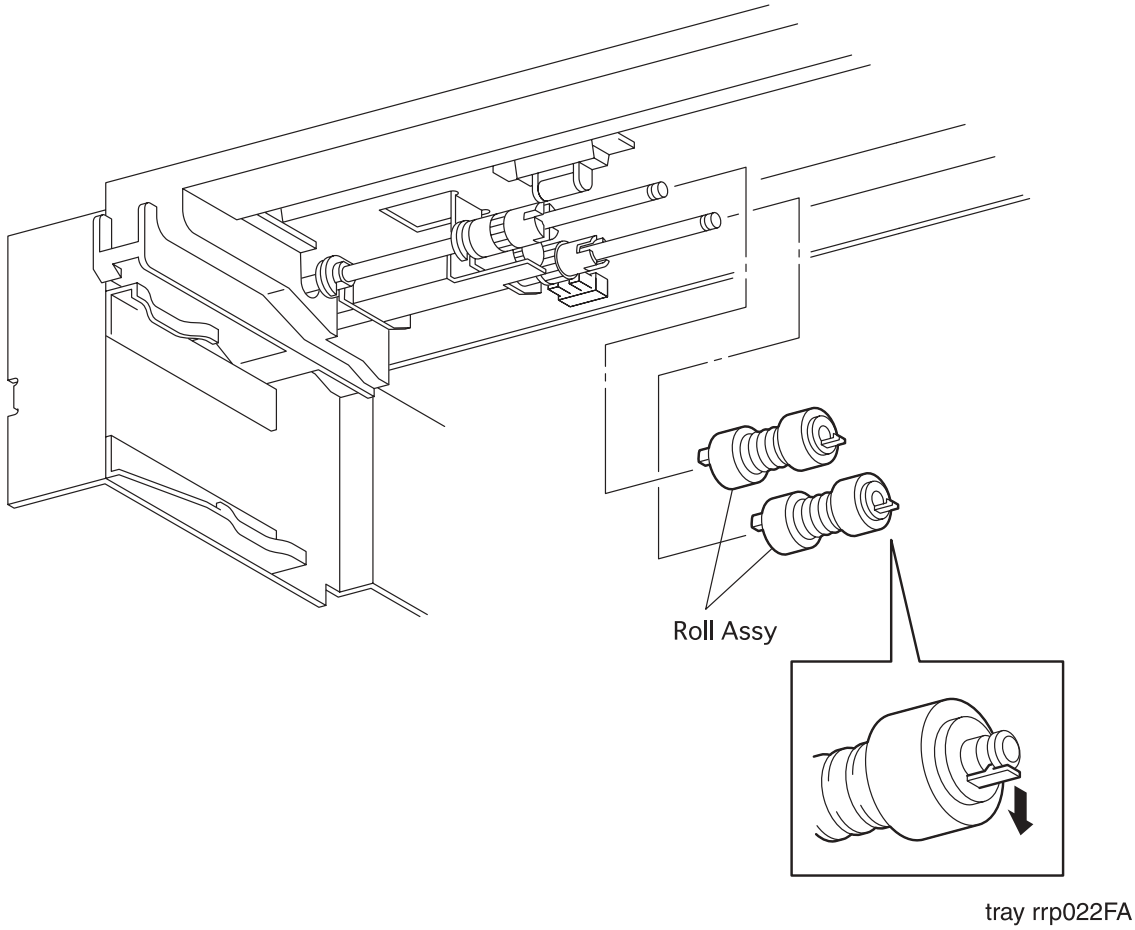


Figure 22.

RRP 11.2.6 Roll Assy (PL11.2.26) continued

Removal

1. Draw the *Cassette Assy* (PL11.1.18) from the *Option Feeder Assy* (PL11.1.1).
2. Unhook the *Roll Assy* secured to the front shaft of *Feeder Assy* (PL11.2.19) in the *Feeder*.
3. Draw the *Roll Assy* from the front shaft of *Feeder Assy*.
4. Unhook the *Roll Assy* secured to the rear shaft of *Feeder Assy* from the *Feeder*.
5. Draw the *Roll Assy* from the rear shaft of *Feeder Assy*.

Replacement

1. Insert the *Roll Assy* into the rear shaft of *Feeder Assy* (PL11.2.19) from the *Feeder*.
2. Hook the *Roll Assy* to the groove in the rear shaft of *Feeder Assy* to secure.
3. From the *Feeder*, insert the *Roll Assy* into the front shaft of *Feeder Assy*.
4. Hook the *Roll Assy* to the groove in the front shaft of *Feeder Assy* to secure.
5. Mount the *Cassette Assy* (PL11.1.18) to the *Option Feeder Assy*.

RRP 11.2.7 PWBA Feeder (PL11.2.36)

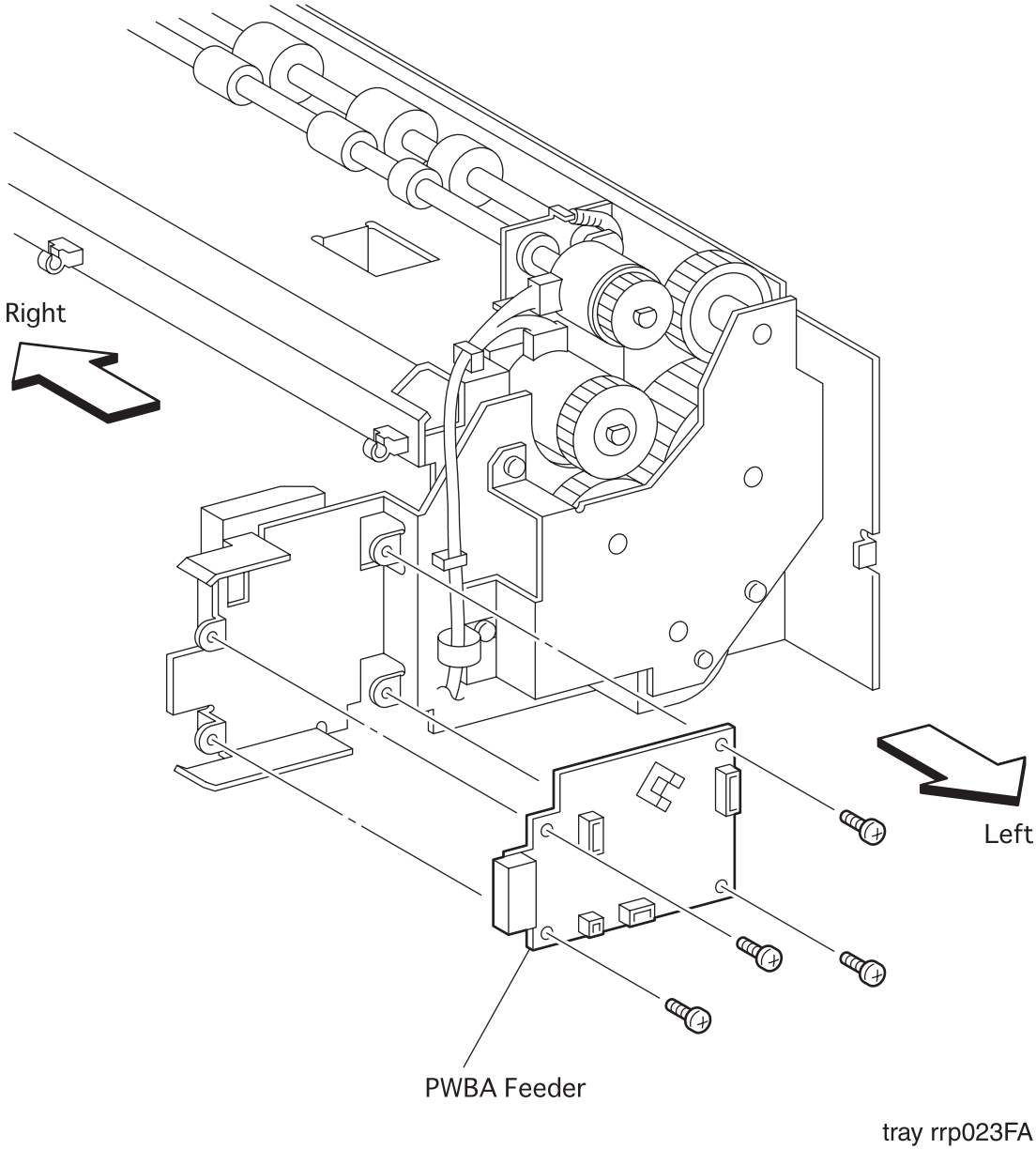


Figure 23.

RRP 11.2.7 PWBA Feeder (PL11.2.36) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Unplug the connector (P/J64) on the *PWBA Feeder* from the *Feeder* (PL11.1.17).
8. Unplug the connector (P/J65) on the *PWBA Feeder* from the *Feeder*.
9. Unplug the connector (P/J66) on the *PWBA Feeder* from the *Feeder*.
10. Unplug the connector (P/J67) on the *PWBA Feeder* from the *Feeder*.
11. Remove the four screws securing the *PWBA Feeder* to the *Feeder*.
12. Remove the *PWBA Feeder* from the *Feeder*.

Replacement

1. Align the *PWBA Feeder* with its mount position to the *Feeder* (PL11.1.17).
2. Secure the *PWBA Feeder* to the *Feeder* with four screws.
3. Plug the connector (P/J67) to the *PWBA Feeder*.
4. Plug the connector (P/J66) to the *PWBA Feeder*.
5. Plug the connector (P/J65) to the *PWBA Feeder*.
6. Plug the connector (P/J64) to the *PWBA Feeder*.
7. Mount the *Feeder* (RRP 11.1.8).
8. Mount the *Plate Top F* (RRP 11.1.3).
9. Mount the *Housing Side L* (RRP 11.1.9).
10. Mount the *Housing Side R* (RRP 11.1.7).
11. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
12. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.8 Clutch Assy Feed (PL11.2.37)

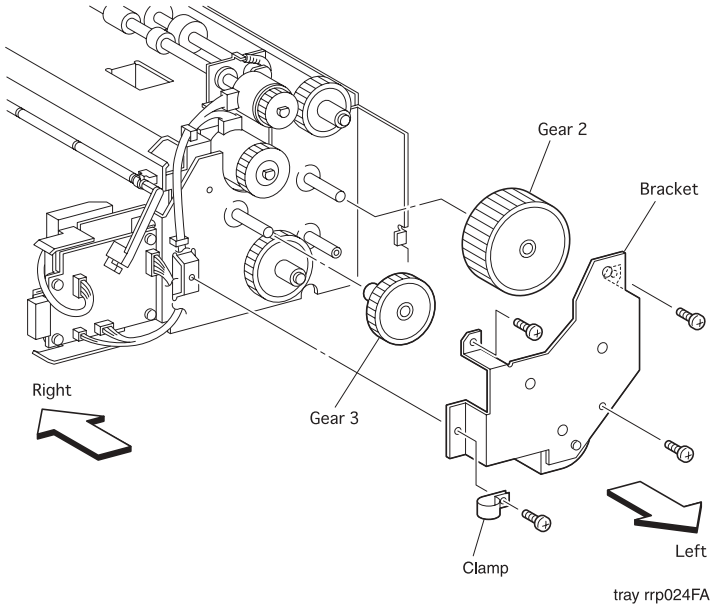


Figure 24.

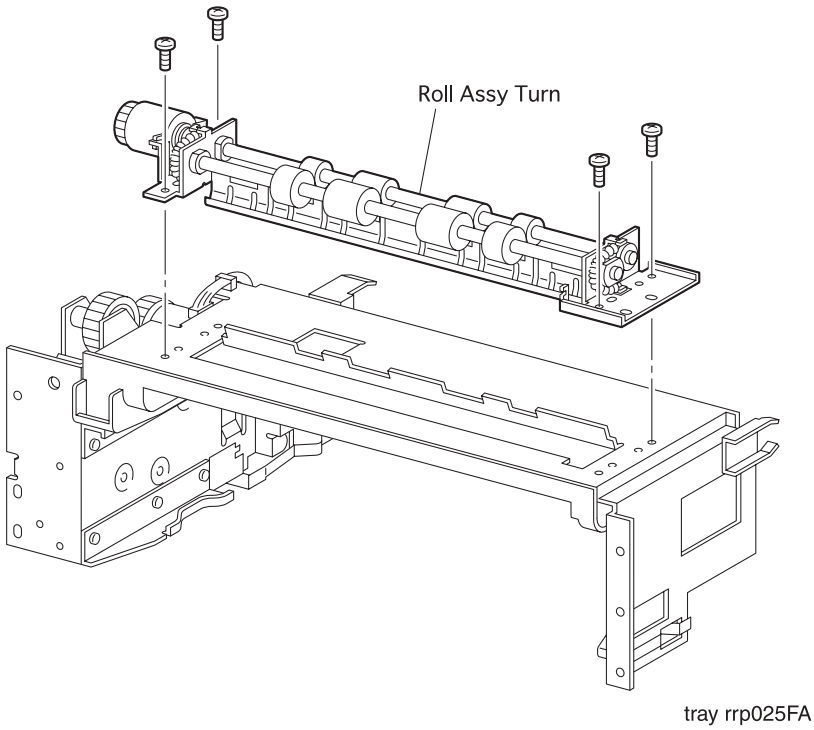


Figure 25.

RRP 11.2.8 Clutch Assy Feed (PL11.2.37) continued

Removal

1. Remove the *Option Feeder Assy* (RRP 11.1.1).
2. Remove the *Bracket Assy OPT Gear* (RRP 11.1.2).
3. Remove the *Housing Side R* (RRP 11.1.7).
4. Remove the *Housing Side L* (RRP 11.1.9).
5. Remove the *Plate Top F* (RRP 11.1.3).
6. Remove the *Feeder* (RRP 11.1.8).
7. Take off a screw fix the Cramp(PL 3.1.44) and the Bracket(PL3.1.33) from the Feeder.
8. Remove the three screws securing the *Bracket* (PL 11.2.33) from the *Feeder*.
9. Remove the *Bracket* from the *Feeder*.
10. Draw the *Gear 3* (PL11.2.34) from the shaft of *Feeder*.
11. Draw the *Gear 2* (PL11.2.31) from the shaft of *Feeder*.
12. Unplug the connector (P/J65) on the *PWBA Feeder* from the *Feeder*.
13. Disengage the E-ring that secures the *Clutch Assy Feed* to the *Feeder*.
14. Draw the *Clutch Assy Feed* from the shaft of *Feeder Assy* (PL11.2.19) in the *Feeder*.

Replacement

1. Aligning the position exactly, insert the *Clutch Assy Feed* into the shaft of *Feeder Assy* (PL11.2.19) in the Feeder (PL11.1.17).
2. Secure the *Clutch Assy Feed* to the shaft of *Feeder Assy* in the *Feeder* with the E-ring.
3. Plug the connector (P/J65) to the *PWBA Feeder*.
4. Aligning the position exactly, insert the *Gear 2* (PL11.2.31) into the shaft of *Feeder*.
5. Aligning the position exactly, insert the *Gear 3* (PL11.2.34) into the shaft of *Feeder*.
6. Align the *Bracket* (PL11.2.33) with its mount position to the *Feeder*.
7. Tighten the Bracket and the Cramp(PL 3.1.44) on the Feeder by a screw.
8. Secure the *Bracket* from the *Feeder* with three screws.
9. Mount the *Feeder* (RRP 11.1.8).
10. Mount the *Plate Top F* (RRP 11.1.3).
11. Mount the *Housing Side L* (RRP 11.1.9).
12. Mount the *Housing Side R* (RRP 11.1.7).
13. Mount the *Bracket Assy OPT Gear* (RRP 11.1.2).
14. Mount the *Option Feeder Assy* (RRP 11.1.1).

RRP 11.2.9 Socket (PL11.2.40)

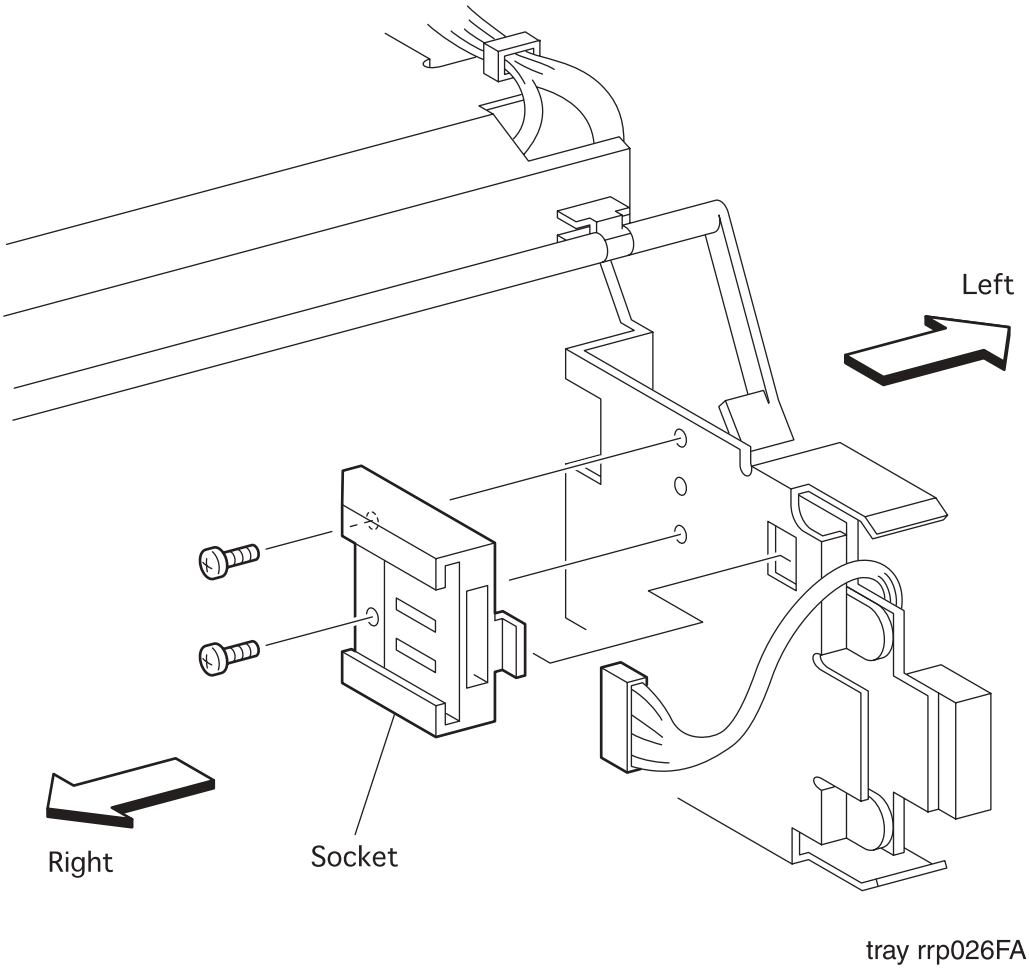


Figure 26.

RRP 11.2.9 Socket (PL11.2.40) continued

Removal

1. Draw the *Cassette Assy* (PL11.1.18) from the *Option Feeder Assy* (PL11.1.1).
2. Remove the two screws securing the *Socket* to the *Feeder* (PL11.1.17) in the *Option Feeder Assy*.

NOTE

In the following steps, do not detach *Feeder* and *Socket* far away because they are connected with the harness.

3. Detach the *Socket* a little from the *Feeder*.
4. Unplug the connector (P/J71) from the *Socket*.

Replacement

1. Plug the connector (P/J71) to the *Socket*.

NOTE

In the following steps, do not allow the harness to get caught between *Feeder* (PL11.1.17) and *Socket*.

2. Aligning the position exactly, insert the boss of *Socket* into a hole in the *Option Feeder Assy* (PL11.1.1).
3. Secure the *Socket* to the *Feeder* with two screws.
4. Mount the *Cassette Assy* (PL 11.1.18) to the *Option Feeder Assy*.

Section 11 - Location of P/J Connectors

Use the P/J table beliw and the P/J map on the next page to locate a apecitic P/J connector within the Feeder and Cassette.

To find the location of a P/J:

1.Locate the P/J connector number in the first column of the table.

2.Locate the corresponding coordinates in the second column, such as I7 or J7.

3.Go to the map.

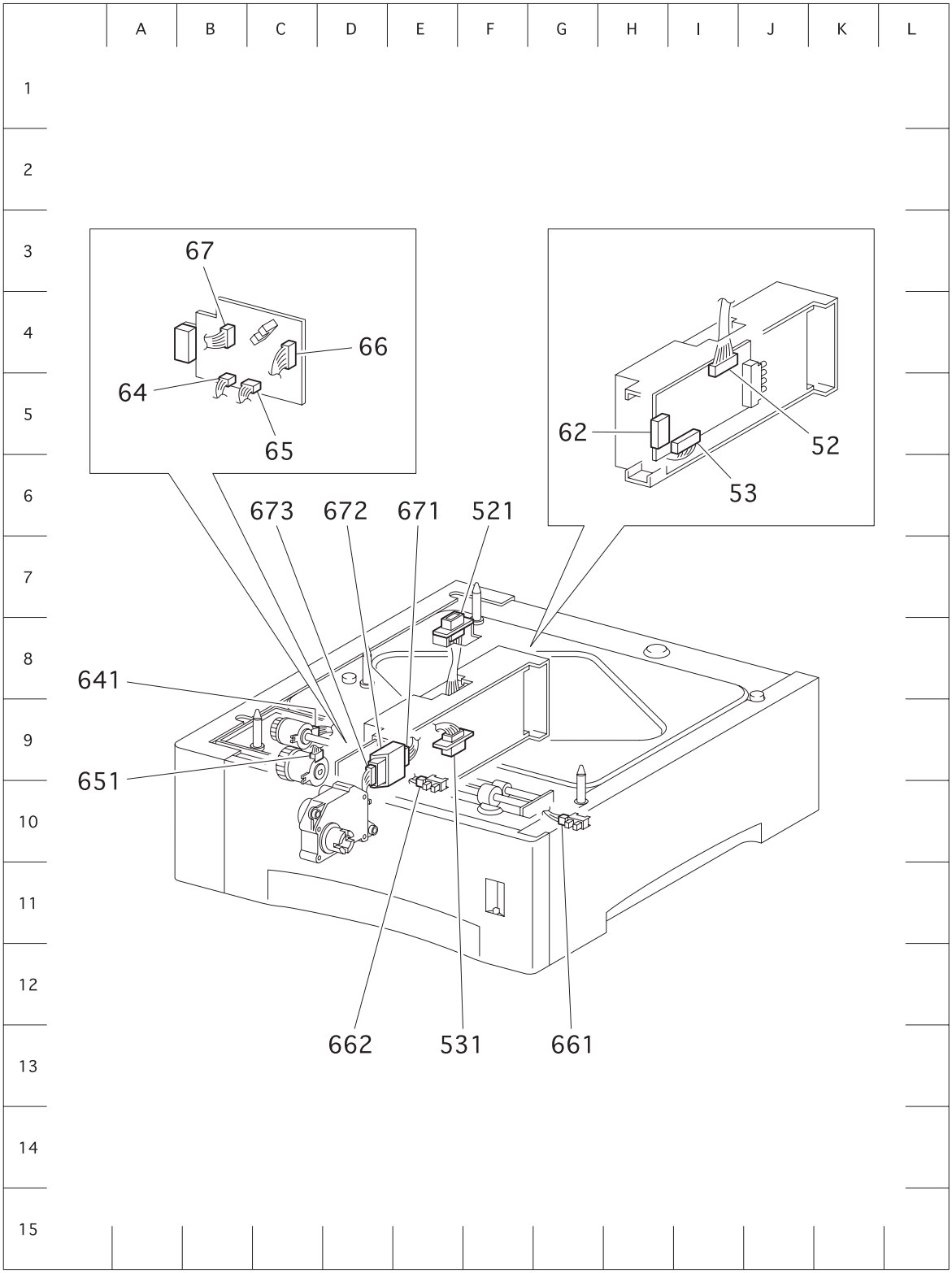
4.Cross-reference the letter and number of the P/J coordinates with the letters and numbers on the map.

5.The P/J connector is located within the area where the coordinates cross.

P/J Table

Connector	Coordinate	Description
P/J 52	I4	Connects the Harness Assy Size Option to the PWBA Size Option.
P/J 53	I5	Connects the Harness Assy Size M to the PWBA Size Option.
P/J 62	H5	Connects the PWBA Size Option to the PWBA Feeder.
P/J 64	B5	Connects the Harness Assy Turn Cllutch to the PWBA Feeder.
P/J 65	B5	Connects the Harness Assy Feed Clutch to the PWBA Feeder.
P/J 66	C4	Connects the Harness Assy N/SNSR to the PWBA Feeder.
P/J 67	B4	Connects the Harness Assy N/MOT to the PWBA Feeder.
J 521	E8	Connects the Harness Assy Size Option to the Printer Assembly. (PWBA Size 1)
P 531	E9	Connects the Harness Assy Size M to the Lower Feeder.
P/J 641	C9	Connects the Harness Assy Turn Cllutch to the Clutch Assy Turn.
P/J 651	C9	Connects the Harness Assy Feed Clutch to the Clutch Assy Feed.
P/J 661	G10	Connects the Harness Assy N/SNSR to the Sensor Photo : Lower Paper.
P/J 662	E10	Connects the Harness Assy N/SNSR to the Sensor Photo : Face Control.
P/J 671	E9	Connects the Harness Assy N/MOT to the Socket.
P/J 672	E9	Connects the Cassette Assy to the Feeder Assy.
P/J 673	D9	Connects the Motor Assy to the Connector.

P/J Map



tray pj001FA

Section 12 - Parts List

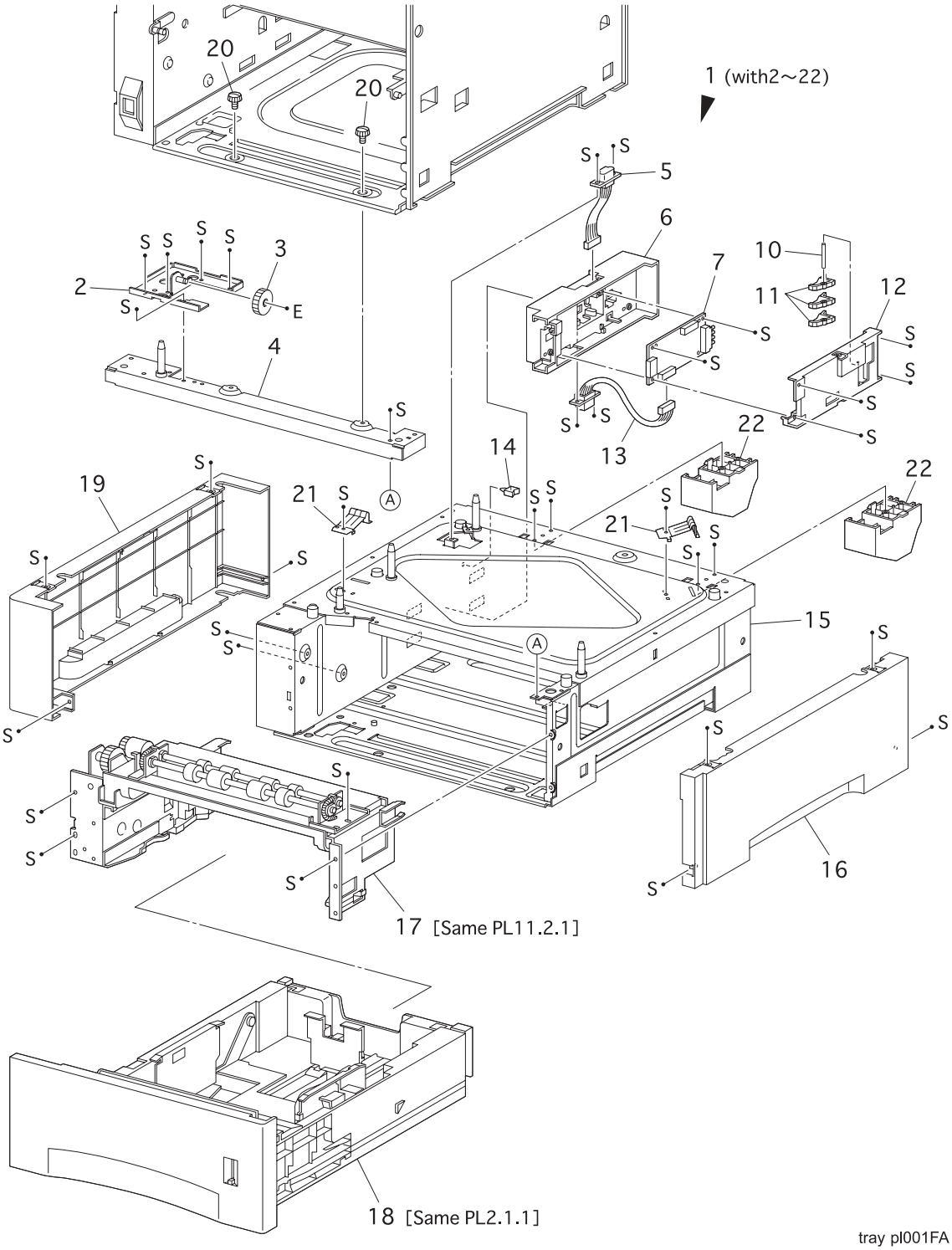
Contents

PL11.1 Option Feeder I. 12-2
PL11.2 Option Feeder II 12-4

Using the Parts List

1. The numbers shown in each illustration correspond to the parts list number for that illustration.
2. Throughout this manual, parts are identified by the prefix “PL”, followed by a number, a decimal point, and another number. For example, PL3.1.12 means the part is item 12 of parts list 3.1.
3. The capital letters “C”, “E”, and “S” shown in an illustration stand for C-ring, E-ring, and Screw, respectively.
4. A shaded triangle t in an illustration indicates the item is part of an assembly.
5. The notation “with X~Y” following an part name indicates an assembly that is made up of components X through Y. For example, “1 (with 2~4)” means part 1 consists of part 2, part 3, and part 4.
6. The notation "RS" means that the part is a requested spare. Part numbers for these parts will be provided as soon as they are available.
7. An asterisk * following a part name indicates the page contains a note about this part.
8. The notation “J1<>J2 and P2” is attached to a wire harness. It indicates that connector jack 1 is attached to one end of the wire harness and connector jack 2 is attached to the other end that is plugged into plug 2.
9. A notation "(part of item 1.1)" indicates that the part is included with item 1.2.1 (PL1.2, line item 1).

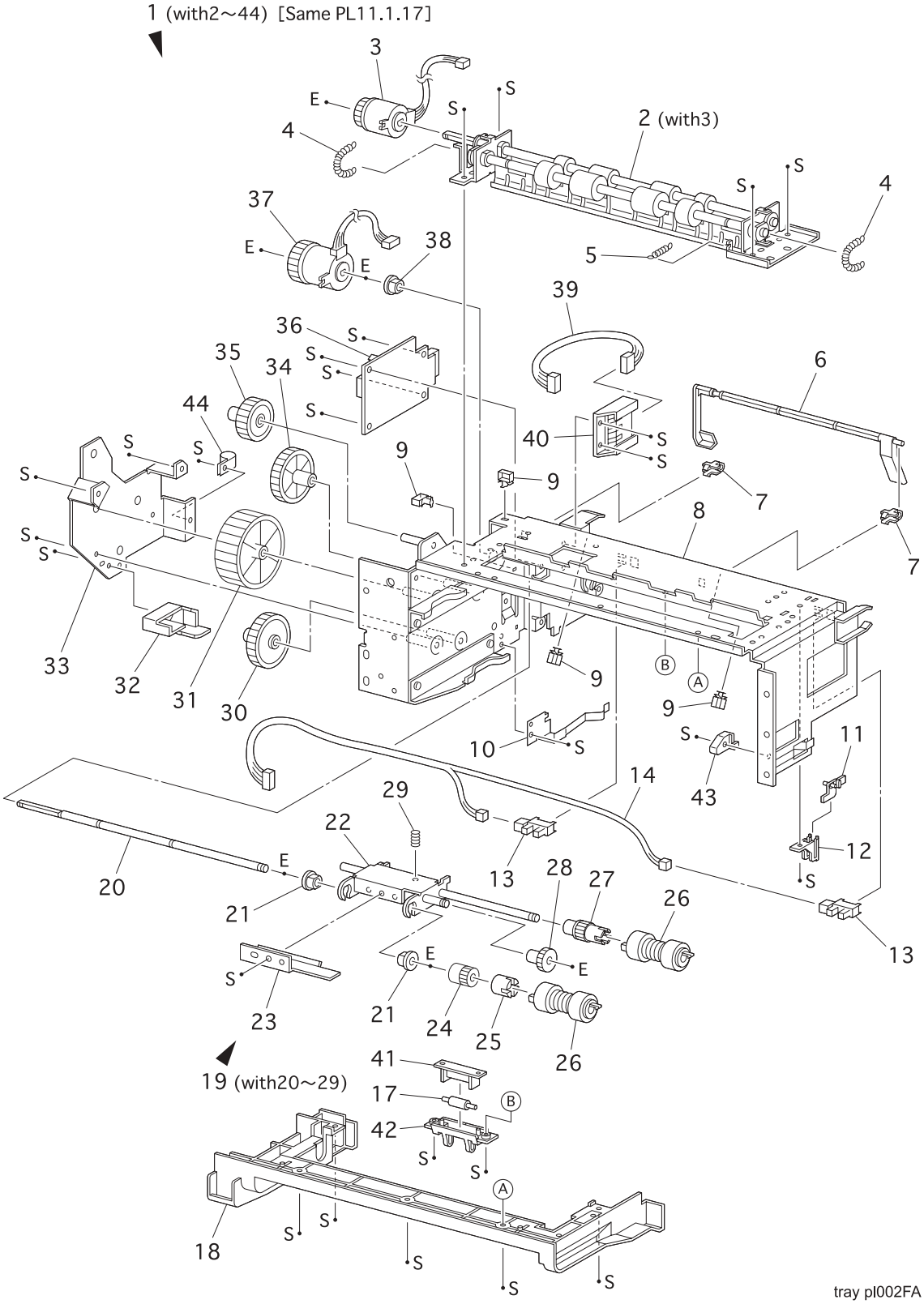
PL11.1 Option Feeder I



PL11.1 Option Feeder I

ITEM	PART NAME
1	OPTION FEEDER ASSY (with 2~22)
2	BRACKET ASSY OPT GEAR
3	GEAR OPT I
4	PLATE TOP F
5	HARNESS ASSY SIZE OPTION (J52-J521)
6	HOUSING SIZE SENSOR
7	PWBA SIZE OPTION
8	---
9	---
10	SHAFT CAM
11	CAM SW
12	COVER SIZE SENSOR
13	HARNESS ASSY SIZE M (J53-J531)
14	CLAMP
15	FRAME ASSY MAIN
16	HOUSING SIDE R
17	FEEDER ASSY [Same PL11.2.1]
18	CASSETTE ASSY [Same PL2.1.1]
19	HOUSING SIDE L
20	SCREW
21	SPRING EARTH OPT FDR
22	BLOCK OPT CST

PL11.2 Option Feeder II



PL11.2 Option Feeder II

ITEM	PART NAME
1	FEEDER ASSY (with 2~44) [Same PL11.1.17]
2	ROLL ASSY TURN (with 3)
3	CLUTCH ASSY TURN
4	SPRING EXTENSION
5	SPRING CHUTE
6	ACTUATER N/P
7	SUPPORT ACTUATER
8	FRAME ASSY FEEDER
9	CLAMP
10	SPRING LATCH L
11	ACTUATER LOW PAPER
12	SUPPORT ACTUATER L/P
13	SENSOR PHOTO :FACE CONTROL,LOW PAPER
14	HARNESS ASSY N/SNSR (J66-J661,J662)
15	---
16	---
17	ROLL 7
18	COVER FEEDER
19	FEEDER ASSY (with 20~29)
20	SHAFT FEED
21	BEARING
22	SUPPORT ASSY NUDGER
23	CHUTE NUDGER
24	CLUTCH GEAR
25	CLUTCH ASSY O/W
26	ROLL ASSY
27	GEAR 25T
28	GEAR 31T
29	SPRING NUDGER
30	GEAR 4
31	GEAR 2
32	COVER GEAR
33	BRACKET
34	GEAR 3
35	GEAR OPT
36	PWBA FEEDER
37	CLUTCH ASSY FEED
38	BEARING
39	HARNESS ASSY N/MOT (J67-J671)
40	SOCKET
41	SUPPORT ROLL-7
42	CHUTE TURN
43	STOPPER CST
44	CLAMP

Section 13: Principles of Operation Contents

The Paper Path for the Option Feeder Assy . . . . . TRAY 13-2
Drive Flow. . . . . TRAY 13-4
Function of Major Components . . . . . TRAY 13-5

The Paper Path for the Option Feeder Assy

Paper that is fed from the Optional Feeder Assy follows the path shown in Figure 1.

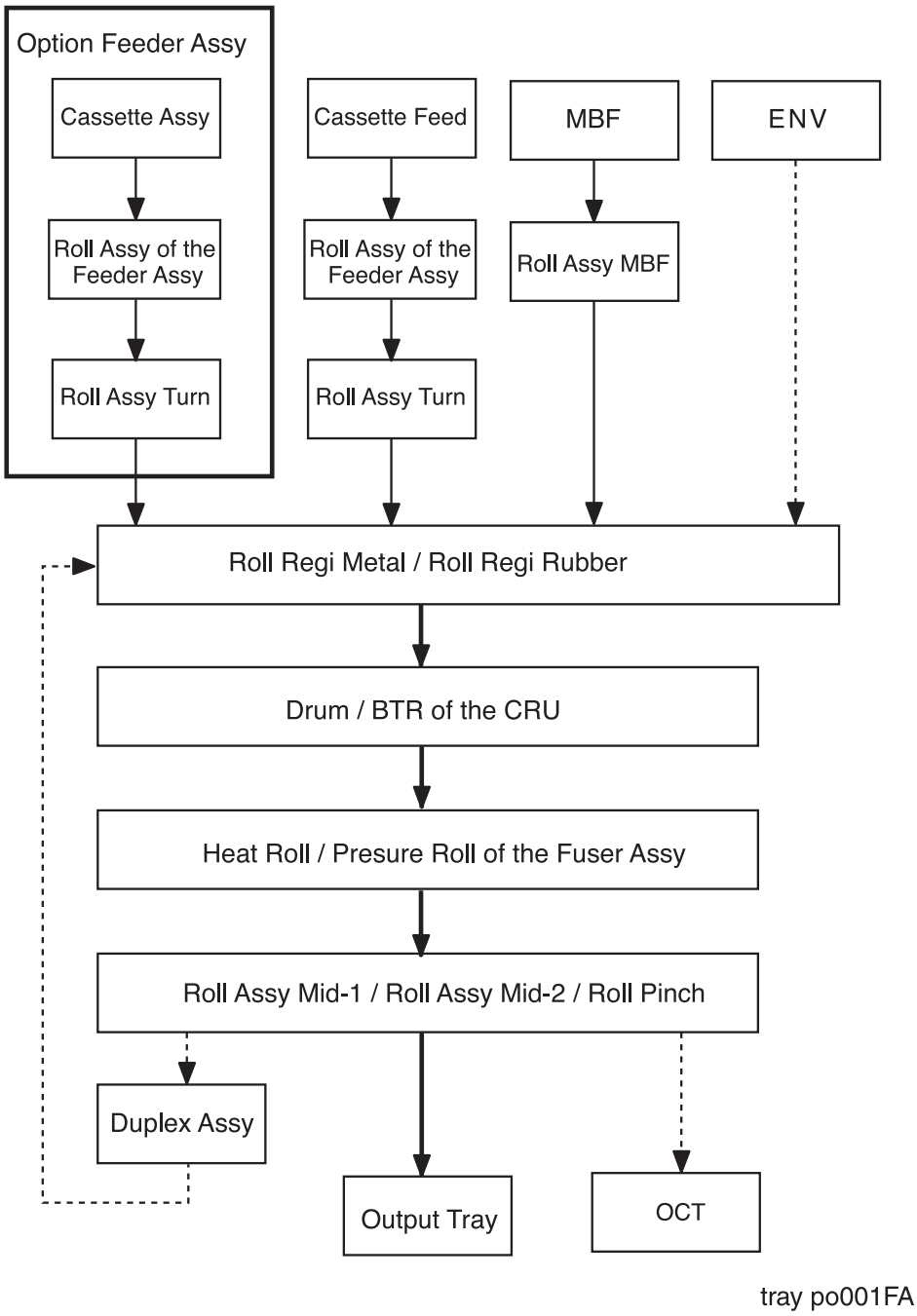


Figure 1. The Option Feeder Assy Paper Path

Figure 2 shows a cut-off view of the printer, to better illustrate the components involved in the Option Feeder Assy paper path.

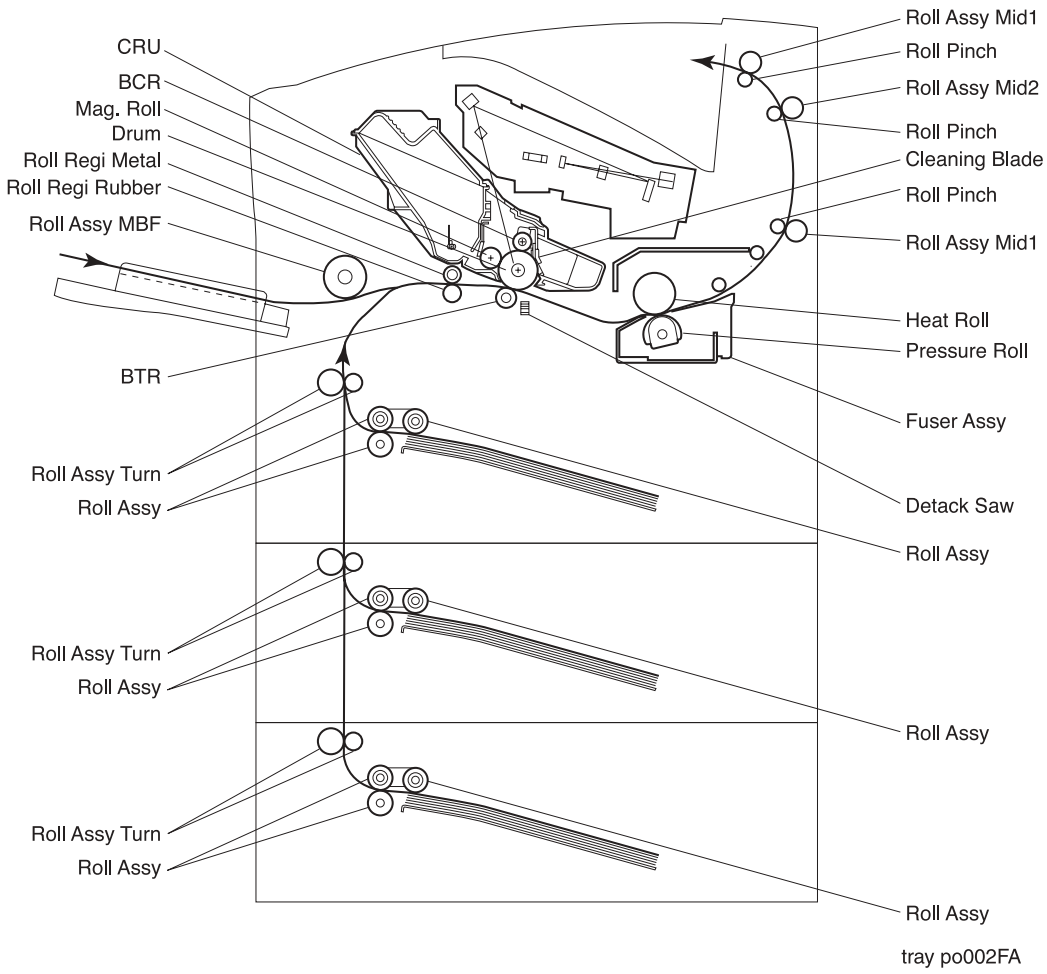


Figure 2. The Option Feeder Assy Paper Path

Drive Flow

As shown in Figure 3, the mechanical power generated by the Motor Assy Main is transmitted to the gears of the Option Feeder Assy.

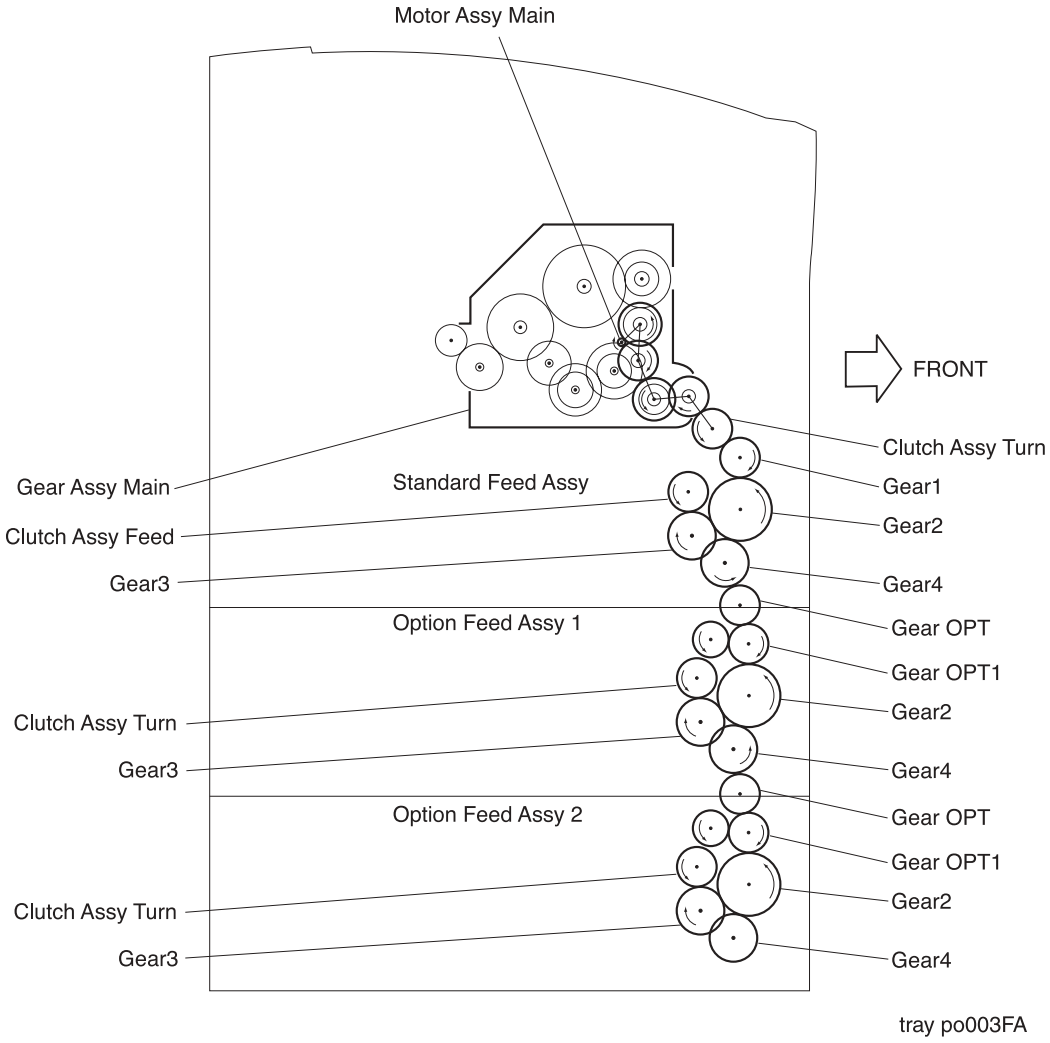


Figure 3. Option Feeder Assy Drive Flow

Function of Major Components

Figures 4 shows the major components of the Option Feeder Assy.

Clutch Assy Turn	Consists of a gear and an electric clutch. This is located on the end of a shaft of the Roll Assy Turn. This clutch controls the transmission of the drive power from the Gear 4 of the Standard Feeder Assy to the Roll Assy Turn by turning on and off the clutch magnet. When this clutch is activated, the drive power is transmitted to the Roll Assy Turn through the Gear OPT to the gear of the Clutch Assy Feed.
Clutch Assy Feed	Consists of a gear and a electric clutch. This is located on the end of a shaft of the Feeder Assy. This clutch controls the transmission of the drive power from the Gear 3 through the Clutch Assy Turn to the Roll Assy of the Feeder Assy by turning on and off the clutch magnet. When this clutch is activated, the drive power is transmitted to the Feeder Assy.
Feeder Assy	Consists of the Support Assy Nudger, Shaft Feed and Roll Assy. The task of this assy is to pick the paper from the Cassette Assy and feed it to the Roll Assy Turn. To ensure this task, the Support Assy Nudger acts as the actuator for the Sensor Photo:Face Control by swivelling itself up and down synchronizingthe hight of the stacked paper.
Roll Assy Turn	This assy feeds the paper to the Standard Feeder Assy path. The mechanical activity is same as the Clutch Assy Turn.
PWBA Feeder	Connective interface between the Sensor Photos, the Clutches and Motor, and the PWBA Size Option. This PWBA also have the Sensor Photo: No Pap 1 which detects the out of paper of the Cassette when it shielded the sensing point by the Actuator N/P.
PWBA Size Option	Controls the Option Feeder Assy, and on the other hand, has the roll of the interface function between other PWBA Size Option, the PWBA Feeder and the PWBA HKB MCU.
Sensor Photo: No Pap 2/3	Detects the out of paper of the Cassette Assy.
Actuator N/P	Actuates the Sensor Photo:No Pap 2 or 3. When out of paper, this actuator will swivel down and shield the Sensor Photo:No Pap 2 or 3.
Sensor Photo:Low Paper	Detects the state of low paper of the Cassette Assy.
Sensor Photo:Face Control	Detects the state that the paper level (the position of the top sheet of paper) goes near not so high to be able to feed.This sensor is actuated by the Support Assy Nudger.
Switch Size	Mounted on the PWBA Feeder and detects the out of paper of the Cassette Assy.

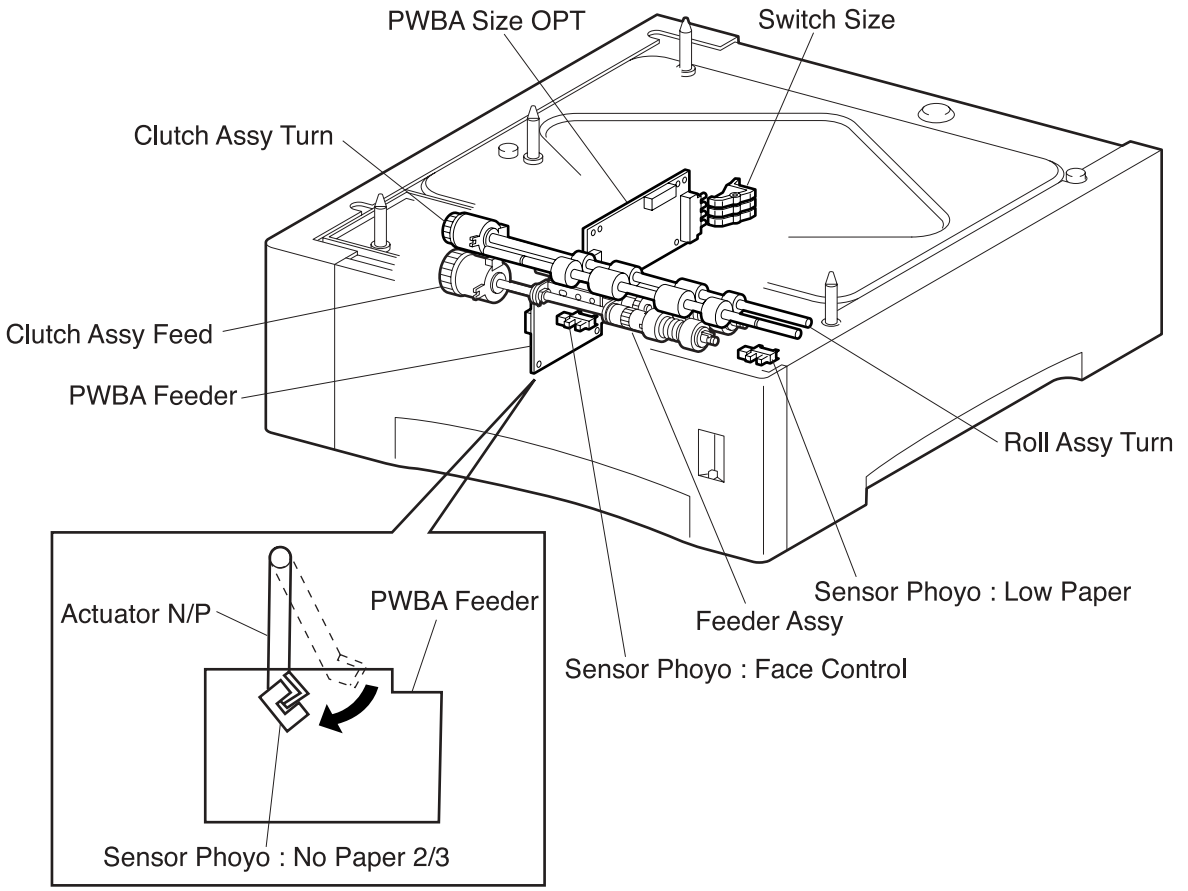


Figure 4. Major Components of the Option Feeder Assy

Section 14: Wiring Diagrams and Signal Information Contents

Wiring Diagram Notations . . . . . TRAY 14-3
Master Wiring Diagram . . . . . TRAY 14-4
DB1 PWBA HKB26 MCU <=> PWBA Size 1 <=> PWBA Size Option . . . . . TRAY 14-5
DB2 PWBA Size Option <=> PWBA Size Option . . . . . TRAY 14-7
DB3 PWBA Feeder <=> Sensor Photo: Low Paper, Sensor Photo: Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy . . . . . TRAY 14-9

Section 14: Wiring Diagrams and Signal Information

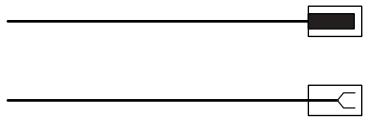
This section of the manual contains a Master Wiring Diagram for the HAKUBA Option Feeder Assy. The Master Wiring Diagram shows the interconnections of the major subsystems within the printer. The remainder of this section divides the Master Wiring Diagram into individual diagram blocks (DB) to better illustrate the electrical relationships between components and assemblies within the Offset Catch Tray. Each wire in the diagram blocks is tagged with a signal name, and each wire is terminated at both ends with a pin number.

Wiring Diagram Notations

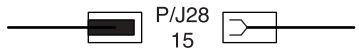
The wiring diagrams presented in this manual use the following circuit notations to describe components and signal paths within the printer.

A PLUG

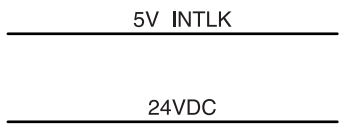
A JACK



CONNECTION OF PIN 15 OF CONNECTORS P28 AND J28.



THE SIGNAL NAME OF A WIRE



THE VOLTAGE MEASURED WITH THE NEGATIVE PROBE OF THE METER ON SG

tray wire001 FA

THE VOLTAGE VALUE OF A SIGNAL

/ = The voltage goes LOW when the signal is ON.

In this case, the HEAT signal is ON, so the normal voltage of 3.3VDC drops to 0VDC.

SG SIGNAL GROUND

FG FRAME GROUND

RTN RETURN

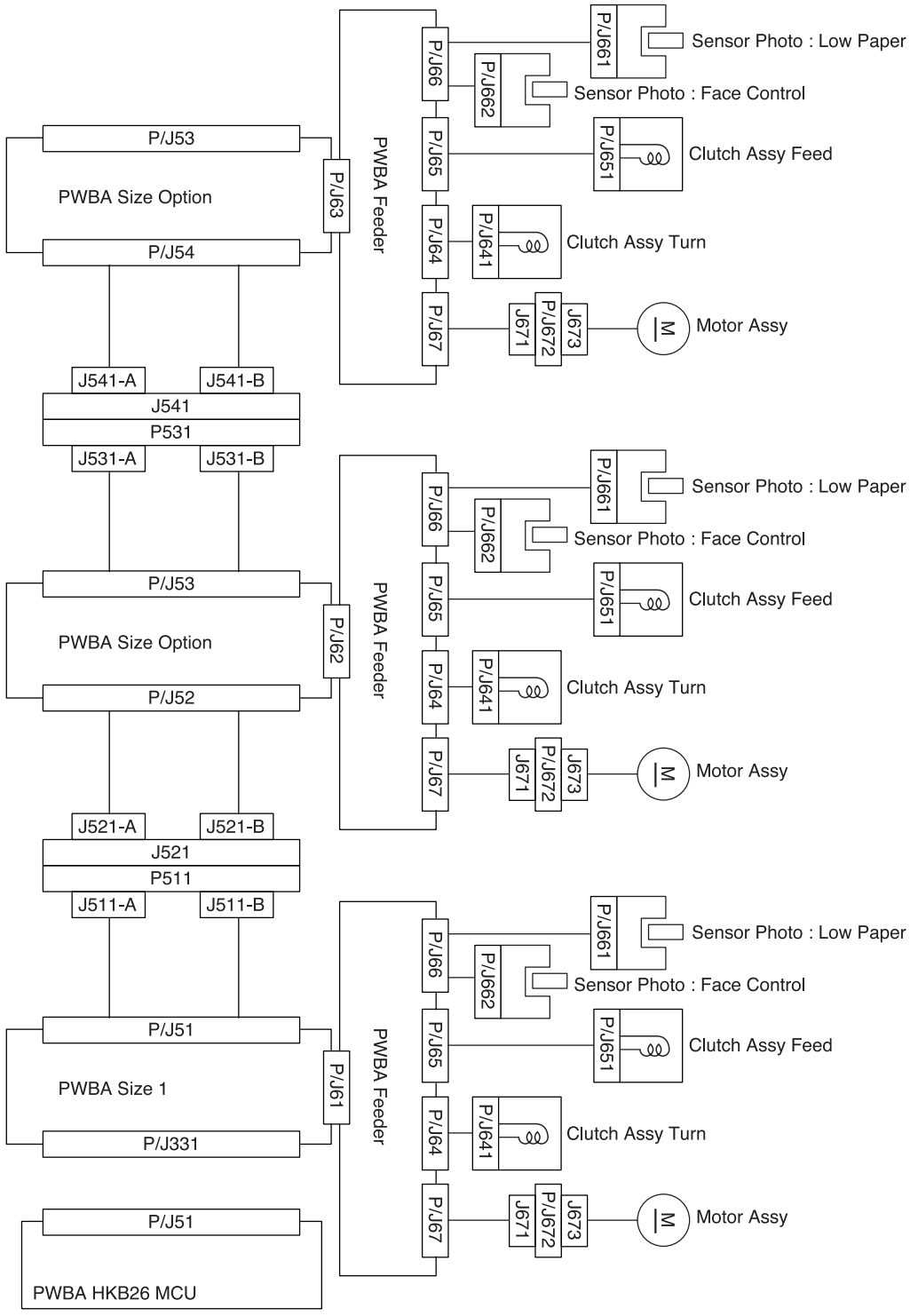
There is continuity between SG and RTN. Continuity between FG and SG depends on circuit specifications.

TTL TTL displayed in the HIGH level or LOW level columns of the signal tables indicate the signal is ECL_CMOS compatible.

HIGH is approx. 3.3 VDC

LOW is approx. 0 to 0.8 VDC

Master Wiring Diagram



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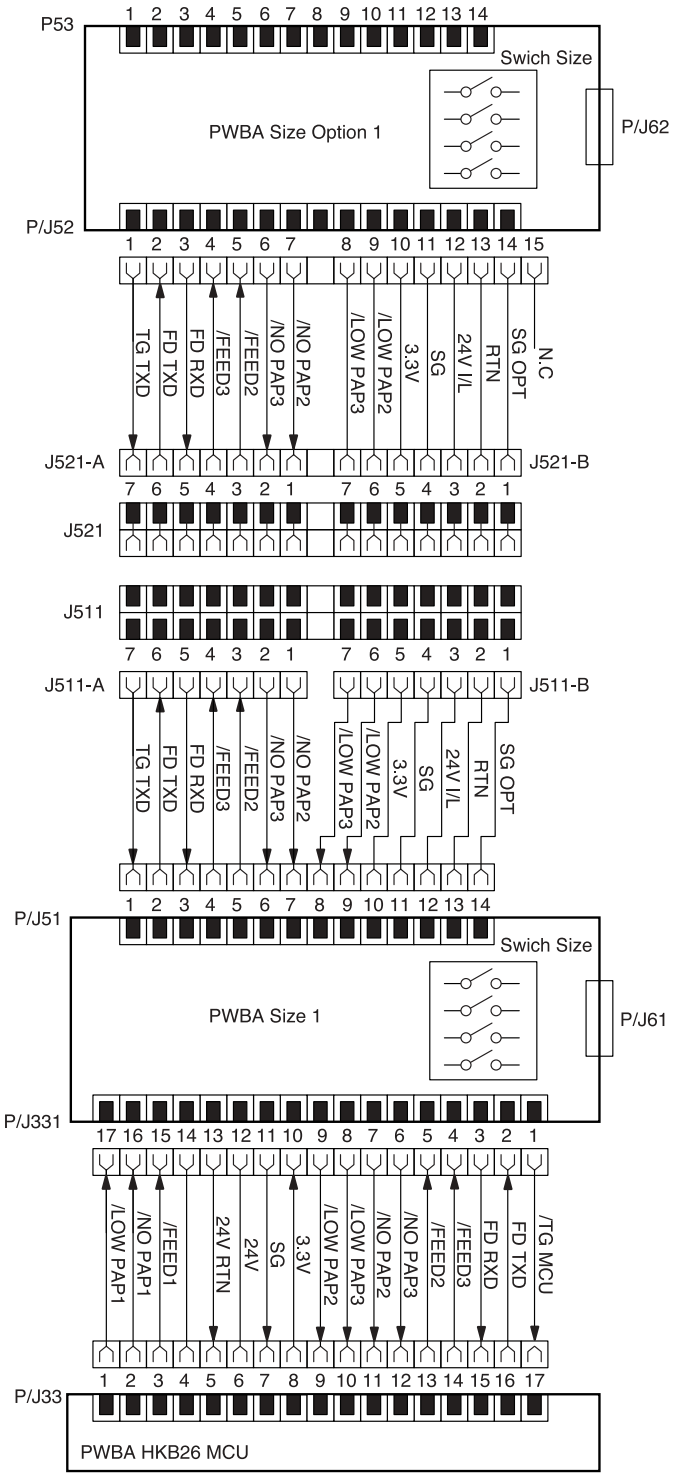
DB1 PWBA HKB26 MCU <=> PWBA Size 1 <=> PWBA Size Option <=> PWBA Size Option



tray wire003FA

DB1 PWBA HKB26 MCU <=> PWBA Size 1<=> PWBA Size Option

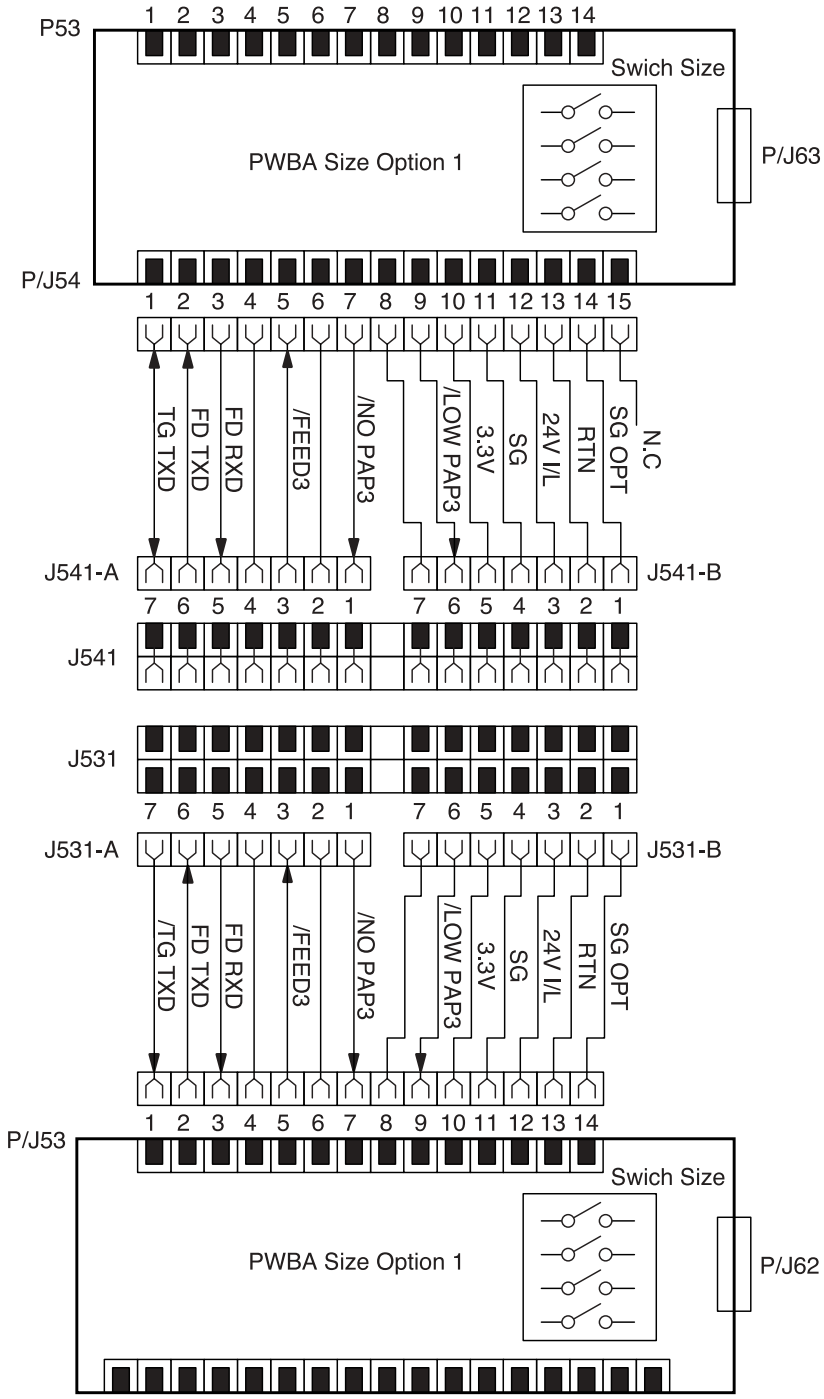
The following table shows the signal names for the PWBA HKB26 MCU <=> PWBA Size 1<=> PWBA Option path:

Signal Name	Description
FD TXD	Control data which is transferred from the PWBA HKB26 MCU
FD RXD	Received data from the Feeder
/FEED 3	Feed control signal for the Feeder 3. The Clutch Assy Feed and the Clutch Assy Turn are activated when this signal goes Low.
/FEED 2	Feed control signal for the Feeder 2. The Clutch Assy Feed and the Clutch Assy Turn are activated when this signal goes Low.
/NO PAP 3	Signal from the Sensor Photo:No Pap 3 (equipped on the Option Feeder 3). This signal is Low when the Sensor Photo:No Pap 3 is activated.
/NO PAP 2	Signal from the Sensor Photo:No Pap 2 (equipped on the Option Feeder 2). This signal is Low when the Sensor Photo:No Pap 3 is activated.
/LOW PAP 3	Signal from the Sensor Photo: Low Paper 3 (equipped on the Option Feeder 3).This signal is Low when the Sensor Photo:Low Paper 3 is activated.
/LOW PAP 2	Signal from the Sensor Photo: Low Paper 2 (equipped on the Option Feeder 2).This signal is Low when the Sensor Photo:Low Paper 3 is activated.

The following table shows pin numbers, and voltage levels for the PWBA HKB26 MCU <=>PWBA Size 1<=> PWBA Size Option path:

P33	P331	P51	P511	P52	Signal Name	Signal Direction M: MCU, S: PWBA Size 1, O: PWBA Size Option	Trigger	HIGH Level	LOW Level
16	2	2	6	2	FD TXD	O <= S <= M	Level	3.3V	0V
15	3	3	5	3	FD RXD	O => S => M	Level	3.3V	0V
14	4	4	4	4	/FEED 3	O <= S <= M	Level	3.3V	0V
13	5	5	3	5	/FEED 2	O <= S <= M	Level	3.3V	0V
12	6	6	2	6	/NO PAP 3	O => S => M	Level	3.3V	0V
11	7	7	1	7	/NO PAP 2	O => S => M	Level	3.3V	0V
10	8	8	7	8	/LOW PAP 3	O => S => M	Level	3.3V	0V
9	9	9	6	9	/LOW PAP 2	O => S => M	Level	3.3V	0V

DB2 PWBA Size Option <=> PWBA Size Option



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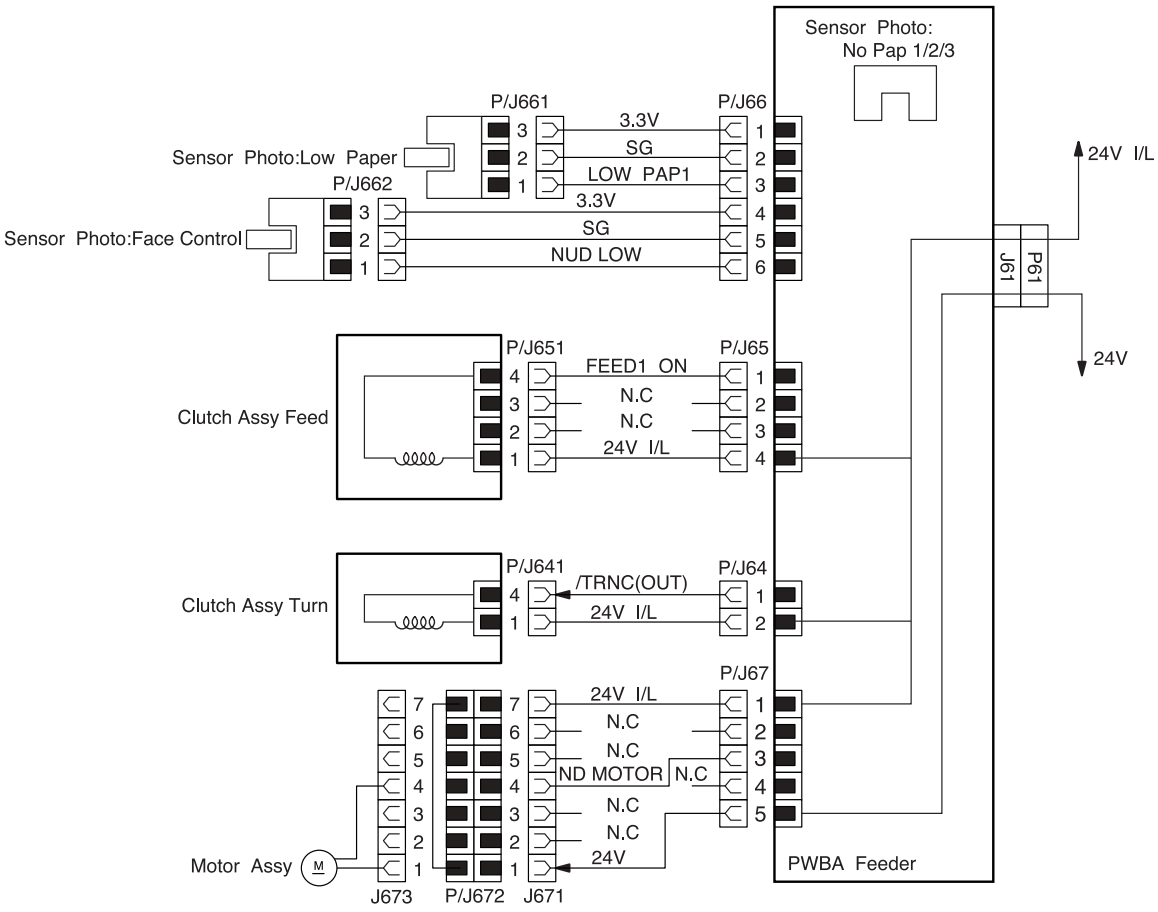
DB2 PWBA Size Option<=> PWBA Size Option

The following table shows pin numbers, and voltage levels for the PWBA Size Option<=> PWBA Size Option path:

P53	P531	P54	Signal Name	Signal Direction O1: PWBA Size Option 1 O2: PWBA Size Option 2	Trigger	HIGH Level	LOW Level
2	6	2	FD TXD	O1 => O2	Level	3.3V	0V
3	5	3	FD RXD	O1 <= O2	Level	3.3V	0V
5	3	5	/FEED 3	O1 => O2	Level	3.3V	0V
7	1	7	/NO PAP 3	O1 <= O2	Level	3.3V	0V
9	6	9	/LOW PAP 3	O1 <= O2	Level	3.3V	0V

DB3 PWBA Feeder <=> Sensor Photo: Low Paper, Sensor Photo: Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy



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DB3 PWBA Feeder <=> Sensor Photo: Low Paper, Sensor Photo: Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy

The following table shows the signal names for the PWBA Feeder <=> Sensor Photo:Low Paper, Sensor Photo:Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy path:

Signal Name	Description
LOW PAP 1(/2/3)	Signal from the Sensor Photo:Low Paper. This signal is Low when the Sensor Photo:Low paper is activated.
FEED 1(/2/3) ON	Control signal which actuates the Clutch Assy Feed.
/TRNC (OUT)	Control signal which actuates the Clutch Assy Turn. The Clutch Assy Turn is interlocked with the Clutch Assy Feed.
NUD MOTOR	Control signal which turns on the Motor Assy.
24V I/L	Interlock signal which related with the all clutches and motors equipped on the PWBA Feeder.

The following table shows signal names and output levels for the PWBA Feeder <=> Sensor Photo:Low Paper, Sensor Photo:Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy path:

Pin	Pin	Pin	Signal Name	Signal Direction PF: PWBA Feeder, MT: Motor Assy CT: Clutch Assy Turn CF: Clutch Assy Feed F:SNS (Face Control) LP: SNS(Low Paper)	Trigger	HIGH Level	LOW Level
P66-3	P661-1	-	LOW PAP 1(/2/3)	LP => PF	Level	3.3V	0V
P66-6	P662-1	-	NUD LOW	F => PF	Level	3.3V	0V
P65-1	P651-4	-	FEED 1(/2/3) ON	CF <= PF	Level	24V	0V
P65-4	P651-1	-	24V I/L	CF => PF	Level	24V	0V
P64-1	P641-4	-	/TRNC(OUT)	CT <= PF	Level	24V	0V
P67-1	P672-7	J673-1	24V I/L	MT => PF	Level	24V	0V
P67-3	P672-4	J673-4	NUD MOTOR	MT <= PF	Level	3.3V	0V

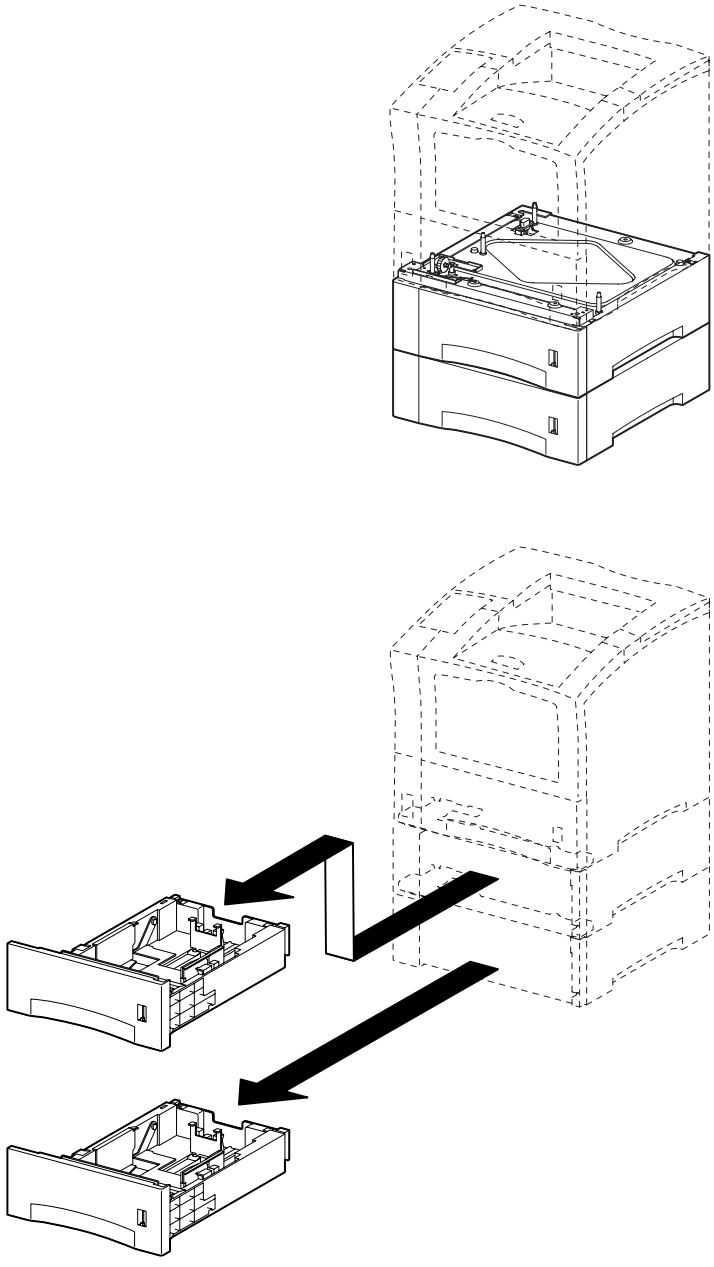
Section 15: Option Feeder Assy Specifications Contents

Dimensions and Weight . . . . . TRAY 15-3
Power Supply . . . . . TRAY 15-3

Section 15: Option Feeder Assy Specifications

The Option Feeder Assy consists of a 550 sheet cassette and a 550 sheet deck. The deck contains the mechanism to feed paper out of 550 sheet cassette.

The Option Feeder Assy can be used as the second and the third feeder on the printer. If two Option feeder are installed, the bottom feeder is designated Feeder 3, and the middle feeder is designated Feeder 2. While, the bottom cassette is designated Tray 3, and the middle cassette is designated Tray 2.



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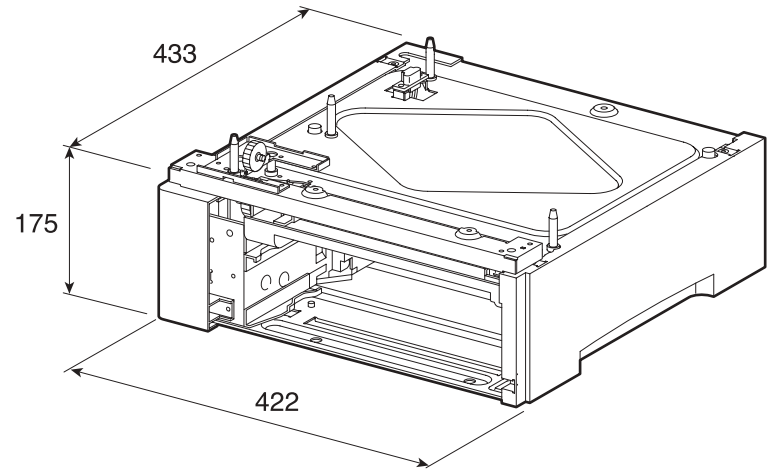
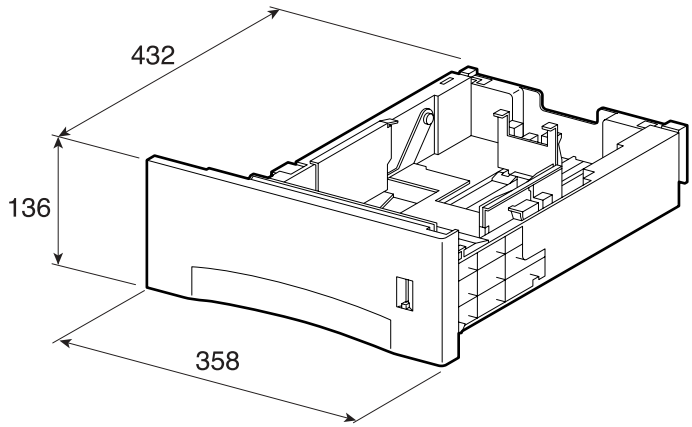
Dimension and Weight

	Width	Depth	Height	Weight
Feeder + Cassette	422 mm	433 mm	175 mm	10.3 kg
Feeder	422 mm	433 mm	175 mm	7.6 kg
Cassette	358 mm	432 mm	136 mm	2.7 kg





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Power Supply

The +24VDC and +3.3VDC are supplied from the PWBA LVPS through the PWBA HKB MCU, PWBA Size Option and PWBA Feeder.

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